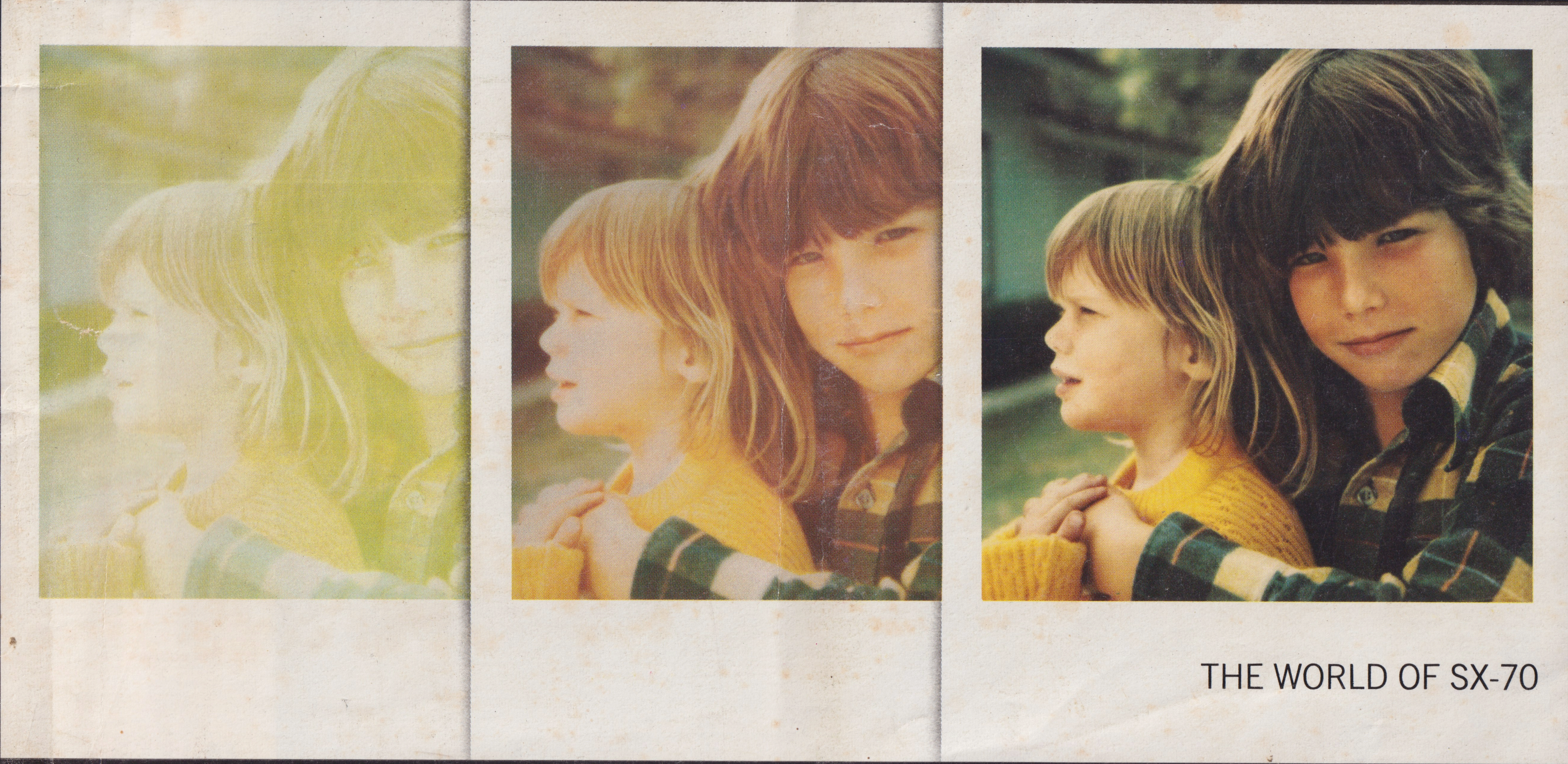


THE WORLD OF SX-70

THE POLAROID SX-70 LAND CAMERA

Introduction 5

Operating the camera

Opening and closing 8
Camera parts 9
Focusing 10
Loading 14
Shooting 14

Taking pictures

Daylight pictures 16
Flash pictures 20
Close-ups 26
People and bright sunlight 30
People and window light 31
People and flash 32
Available light indoors 34
Background and foreground 36
Series pictures 38
Scenic pictures 40
Ways to see a subject 44
Copying objects and pictures 46
Record the unexpected 48
Time exposures 50
Cold and hot weather pictures 51

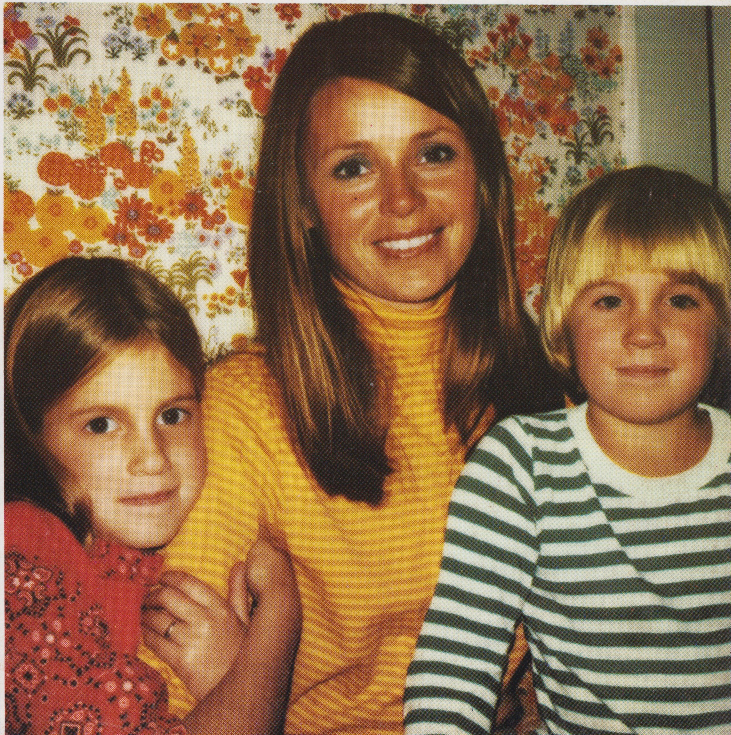
Other information

Accessories 52
Copies and enlargements 53
Care of camera, film and pictures 54
Problem pictures 56
How the system works 58
Warranty, Customer Service, repairs 62

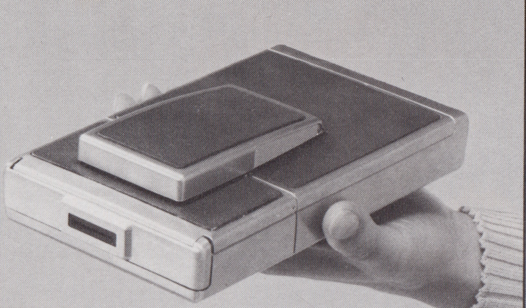
All the color photographs in this book were made with Polaroid SX-70 Land cameras and films. Every effort has been made to reproduce as faithfully as possible the colors and details appearing in the original prints. The reproductions most closely resemble the originals when the book is viewed by daylight.

The flash range is 10½ in. (27 cm) to 20 ft. (6 m) – all you have to do is focus sharply

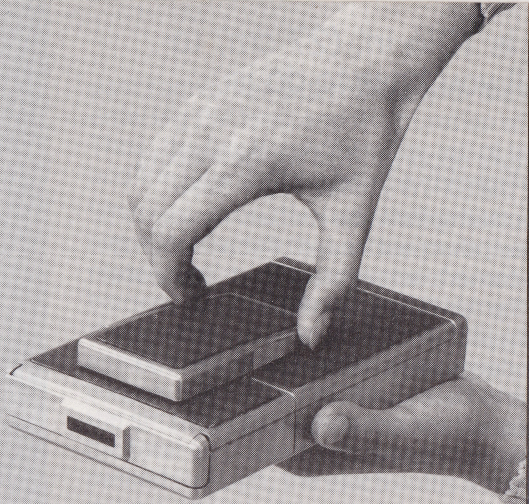
Many of your best picture opportunities will be indoors or at night. For these, the SX-70's follow focus flash system makes picture taking a simple matter. As you focus to get the clearest, sharpest image of your subject in the viewfinder, the camera sets correct flash exposure automatically. Press the red button, and the camera delivers the developing picture 1.5 seconds later. The pictures on these two pages were made with flash. You can take flash pictures at between 10½ in. (27 cm) and 20 ft. (6 m), and can come as close as 5 in. (13 cm) with the use of a simple accessory.



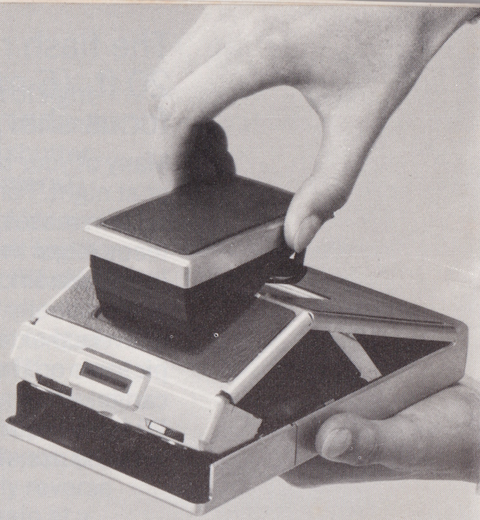
OPENING AND CLOSING



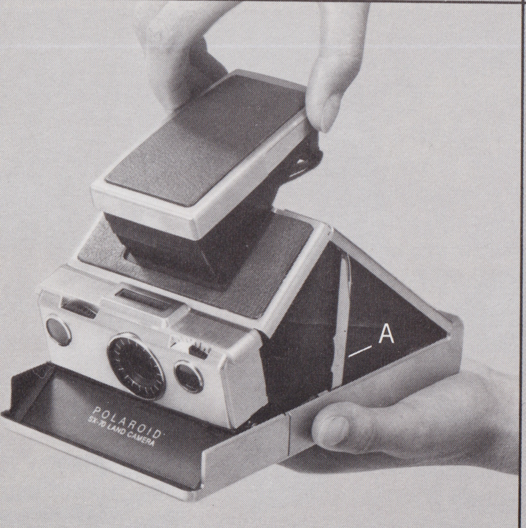
1 Hold it in the palm of your left hand.



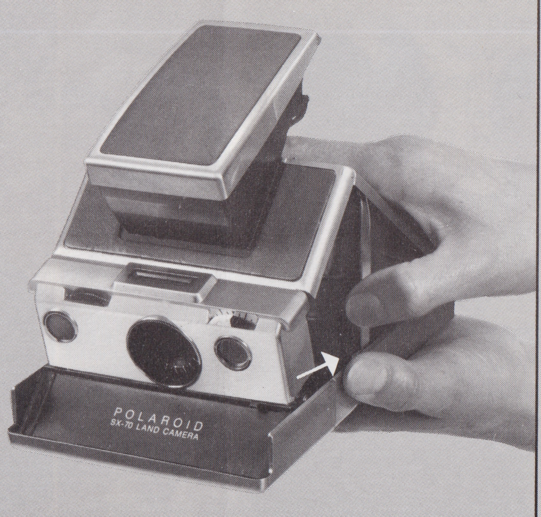
2 Grasp the small end of the viewfinder cap.



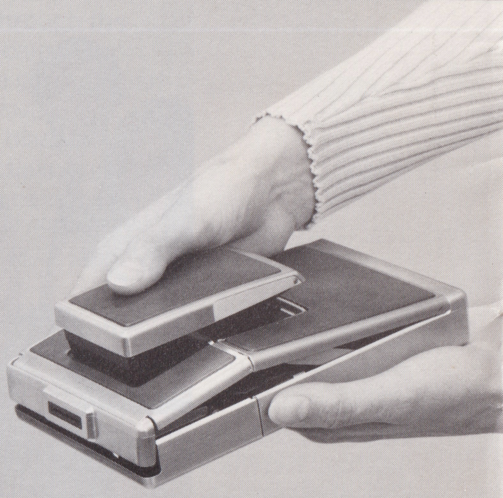
3 Pull it straight up . . .


A
POLAROID
SX-70 LAND CAMERA

4 . . . until the cover support bar (A) moves forward and locks in place. The camera can now be loaded and used.

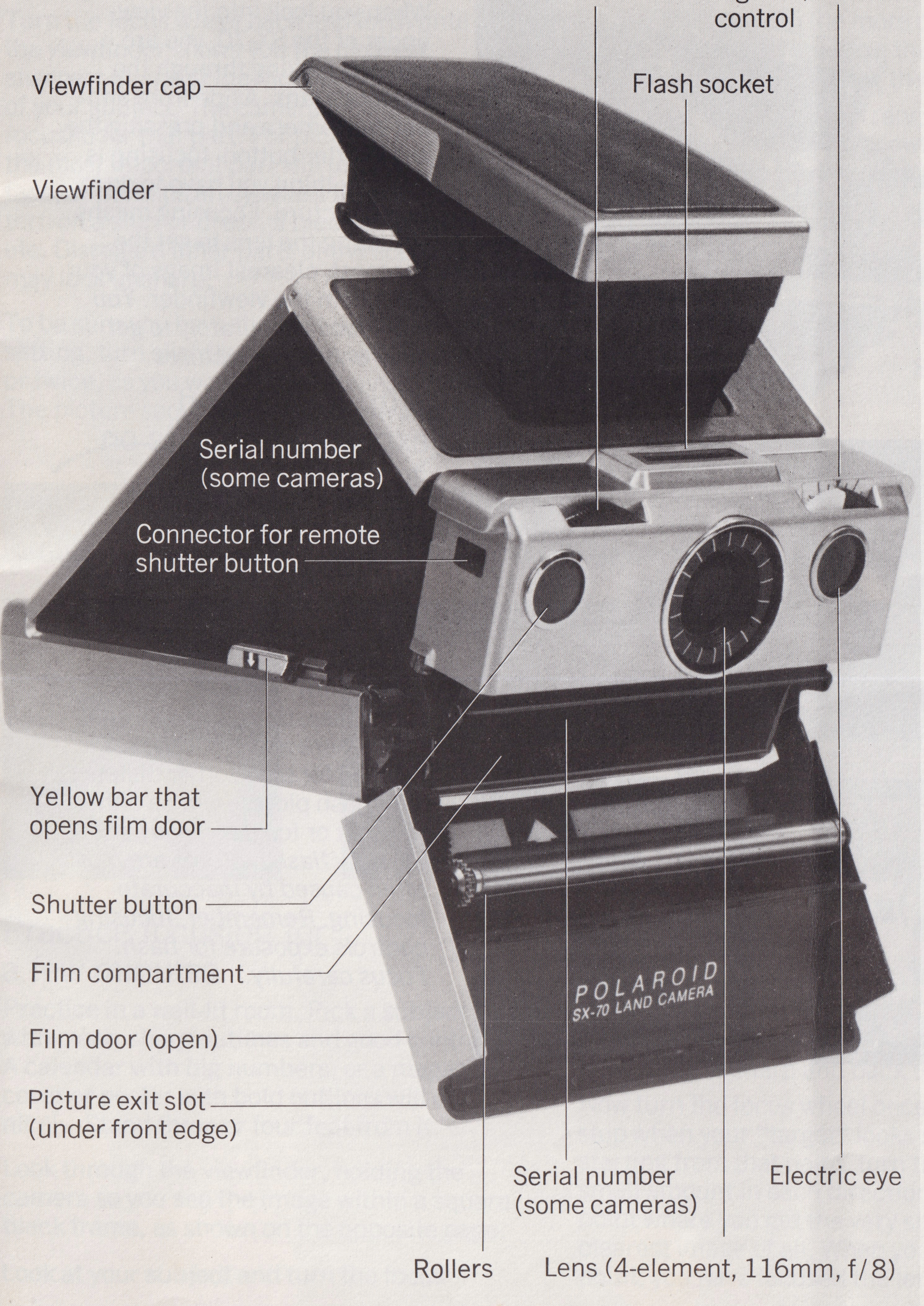

POLAROID
SX-70 LAND CAMERA

5 To close the camera, push the support bar toward the rear and . . .



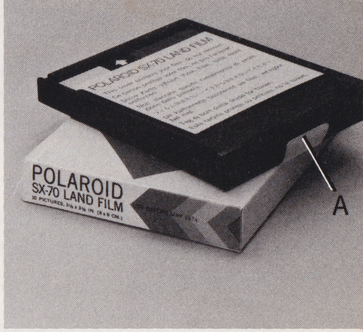
6 . . . press down on the viewfinder cap so that both sides of the camera close.

KNOW YOUR CAMERA


Focus wheel
Lighten / Darken control
Viewfinder cap
Flash socket
Viewfinder
Serial number (some cameras)
Connector for remote shutter button
Yellow bar that opens film door
Shutter button
Film compartment
Film door (open)
Picture exit slot (under front edge)
Serial number (some cameras)
Electric eye
Rollers
Lens (4-element, 116mm, f/8)
POLAROID SX-70 LAND CAMERA

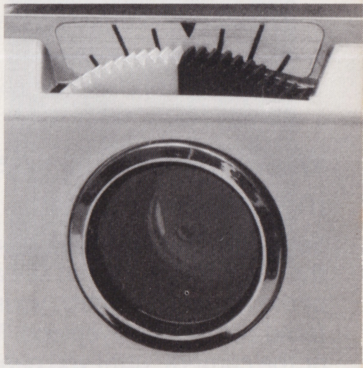
The unique film pack provides ten 3⅛ x 3⅛ in. (8 x 8 cm.) pictures. Built into each pack is a flat battery to supply the power needed for that pack. →

Use the yellow tab (A) to remove a film pack from the camera.

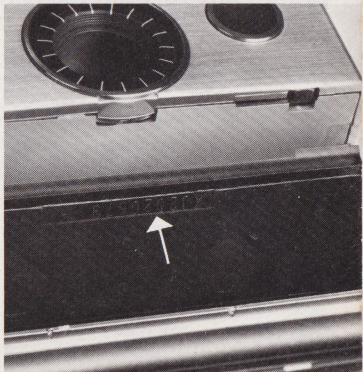

POLAROID SX-70 LAND FILM
A

The picture counter, on the rear of the camera, is blank when the camera is empty, goes to 10 when a pack is inserted and the film door is closed. It counts down, tells you how many more pictures you can take. After 10 pictures it stops at 0, won't let you waste a flashbulb. Insertion of a partly used or empty pack will also set the counter to 10. →

To make pictures lighter, turn the Lighten / Darken control to show more white; to darken them, turn it to show more black. The control automatically returns to Normal (shown) when the camera is closed. →



The serial number of your camera will be in one of the two locations indicated (left). If it is inside the camera, it will only be visible if the film door is open and there is no film pack in the camera (right). →



For HOW THE CAMERA SYSTEM WORKS, see page 58.

HOW TO HOLD THE CAMERA

Hold it with your left hand, as shown here. The hand should be behind the film door hinge (A); the fingers should never block the picture exit slot (B), where the picture comes out of the camera, or touch the bellows (C). Place your eye about an inch from the viewfinder and look through the center of the eyepiece.

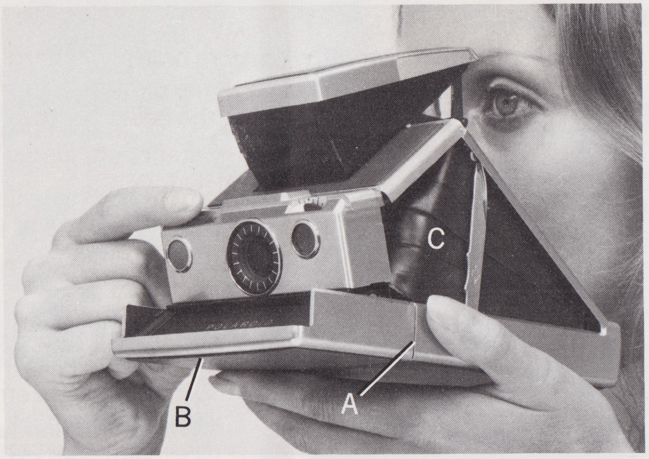
Tuck your right thumb behind the shutter housing, but do not touch the bellows (C). Place your forefinger on the focus wheel at (D). Curl the other fingers into your palm, as shown in the top picture.

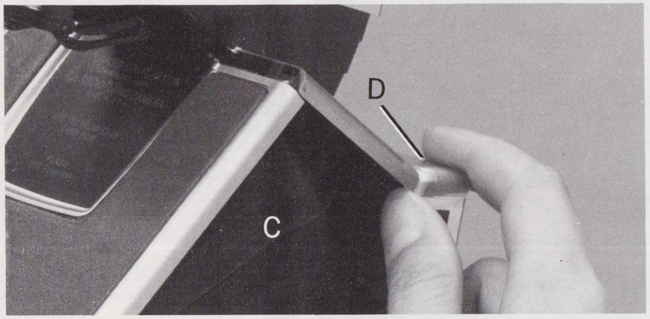
What you should see in the viewfinder

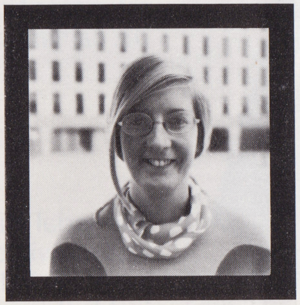
You should see a square black frame around the scene. If you do not see all four corners of the frame (far right), your eye is not centered behind the eyepiece. Move your eye or the camera, until you can see all four corners.

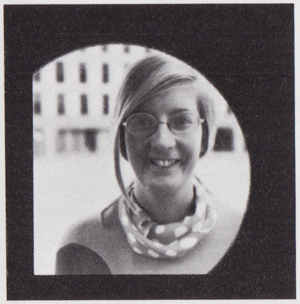
An additional focusing aid

The split circle in the lower center of the viewfinder represents an additional focusing aid. It is a split image rangefinder that helps you to focus in dim light, and for flash pictures. Its use is described on page 12.









FOCUSING

When you look into the viewfinder of the SX-70, you are actually looking through the camera's lens. Aside from aiming the camera and pressing the red shutter button, focusing is the only thing you have to do to take a picture. Focusing means adjusting the lens to get the sharpest, clearest image of your subject in the viewfinder. *You must focus accurately to get clear and sharp pictures.*

With flash, good exposure depends on accurate focusing

As you adjust the focus setting of the camera lens, the camera automatically sets the right flash exposure for any distance at which the lens is focused – between 10½ in. (27 cm) and 20 ft. (6 m). Thus, if your subject is, say, 5 ft. (1.5 m) from the camera and the lens is focused for some other distance, your flash picture will be either too light or too dark. *Too light or too dark flash pictures are most often caused by inaccurate focusing. Remember, focusing controls exposure for flash. Focus carefully.*

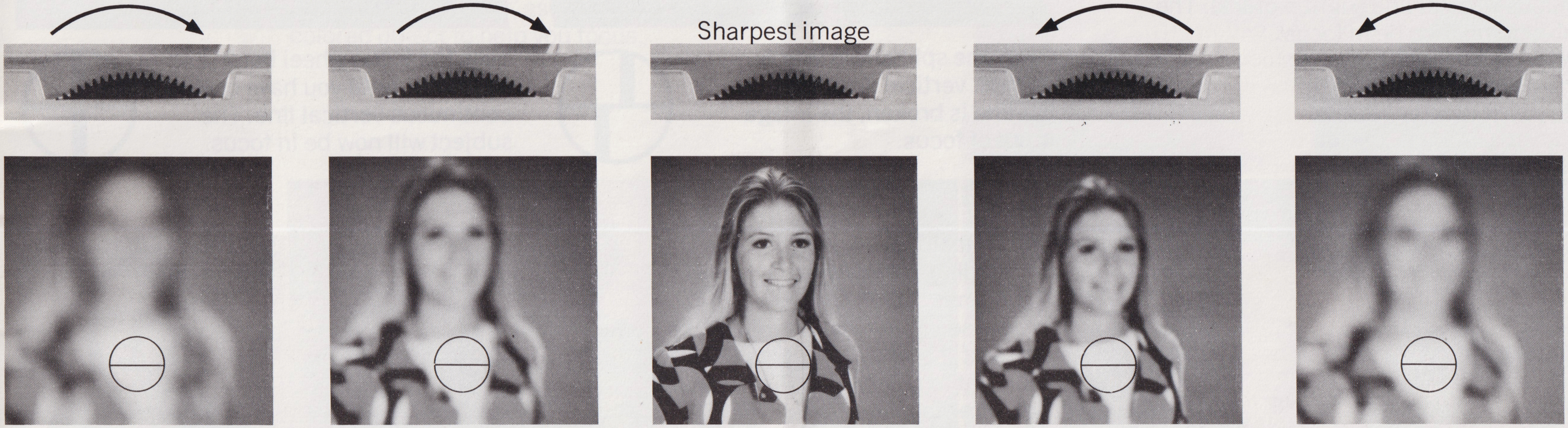
How you focus

Turn the focus wheel back and forth until the viewfinder shows you the clearest, sharpest image of the most important part of your subject. The camera lens is then focused for that part. For pictures of people, the most important part will usually be the face, or perhaps an eyeglass frame, the pattern on a shirt or dress, a piece of jewelry, etc. Disregard other parts of the scene which may look unsharp.

To be sure you have the best possible focus setting, turn slightly past that setting once or twice, as you would when tuning a radio. The picture sequence below illustrates this.

By comparison with the more or less unsharp images, the sharp image in the center stands out clearly as being the best.

The use of the split circle rangefinder, seen in the lower center of the viewfinder, is described on the next page.



Practice focusing for a few minutes

Practice in a well-lit room. Pick a subject with clear, sharp outlines and good contrast. A calendar with big numbers, or a magazine cover or poster with bold outlines will do nicely. Stand three or four feet from it.

Look through the viewfinder, holding the camera so you see the image within a square black frame, as shown on the opposite page.

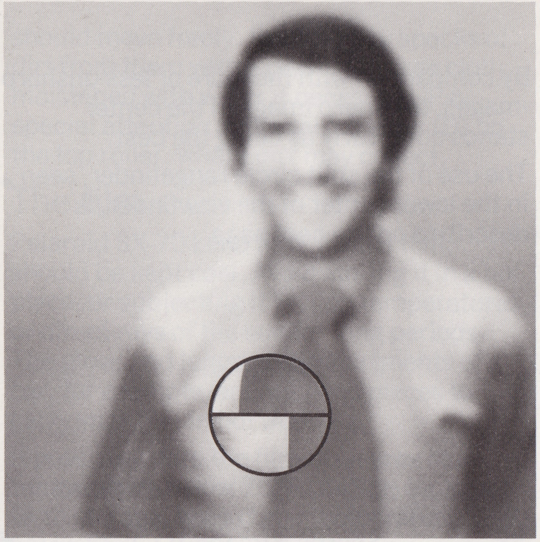
Look at your subject and turn the focus wheel slowly as far as it will go in both directions. Watch the subject change gradually from fuzzy to sharp and back to fuzzy again.

Now turn the focus wheel once again, but stop when your "target" looks sharp. Then, starting from that point, turn the wheel a small amount in each direction to find the point where you get the very sharpest, clearest image of all. When you find that point, you have focused the lens.

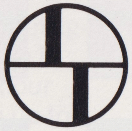
The split circle focusing aid

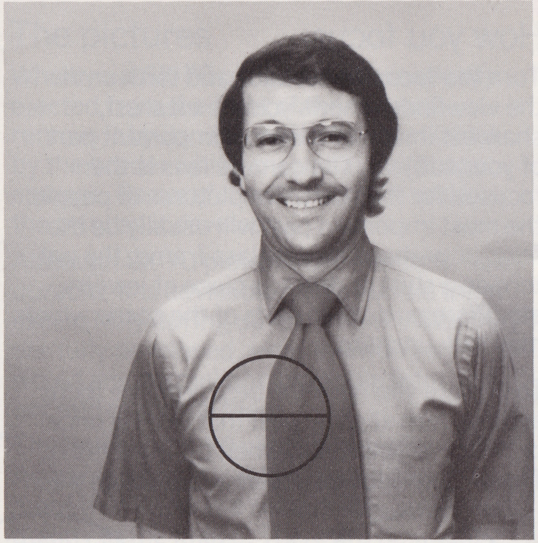
The split circle in the lower center of the viewfinder is a special focusing aid, designed to help you focus in dim light and for your flash pictures. To use it, you need a distinct vertical line in the area on which you wish to focus. That line should be the same distance from you as the most important part of your subject, not in front of or behind it. Thus, in order to get a face sharp, you could aim at a necktie, a lapel, a necklace or the side of an eyeglass frame.

When the vertical line appears in the split circle as two misaligned halves (left picture), your image is unsharp. Turn the focus wheel in the normal manner, until you see one continuous vertical line (right picture). The subject will then be in focus.

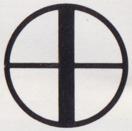


Place the split circle over a distinct vertical line. When the line is broken, the image is out of focus.

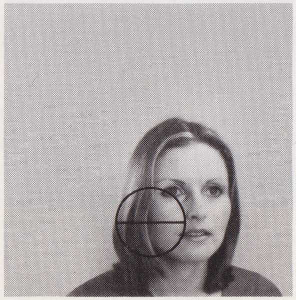


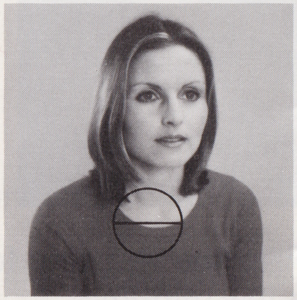


Turn the focus wheel back and forth, until you have one continuous vertical line. The subject will now be in focus.



The split circle is for focusing, not for framing. After focusing you will sometimes need to reframe the image, so you see within the black frame of the viewfinder just what you want to record in the picture. But, after focusing, do not change the camera to subject distance.





With some subjects, the split circle may not help

Use of the split circle focusing aid is dependent on the presence of a distinct vertical line in the most important part of the subject. A subject which has no such vertical line – a furry animal, a bunch of flowers, a confusing pattern, etc. – should be focused on in the normal manner, described on the previous page.

For a far-distant scene or a close-up object – just focus and shoot

Whatever the scene or the subject – a flower as close as 10½ in. (27 cm) or a distant horizon – just turn the focus wheel to get the clearest, sharpest image in the viewfinder, then press the red button; the camera does the rest. It sets the correct exposure automatically and delivers the developing picture 1.5 seconds later. The pictures on these two pages were made without flash.

Pointers to help you focus

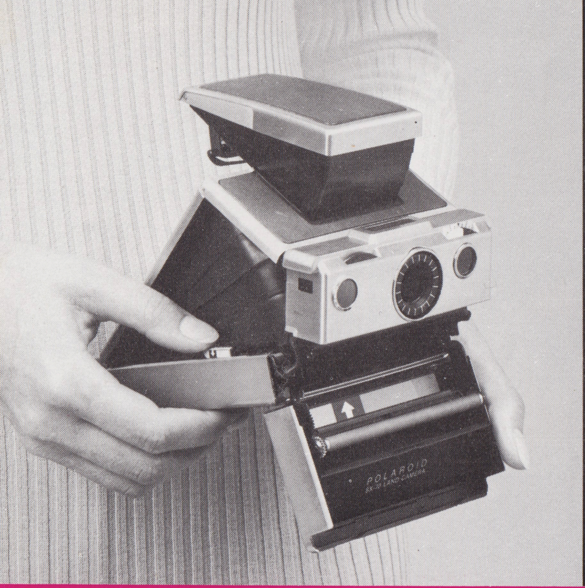
Always focus on the most important part of the subject, such as your subject's face. Look for points of contrast – light against dark, one color next to another, etc.

RIGHT: For a close portrait, focus on a feature – the eyes, mouth, or nose.

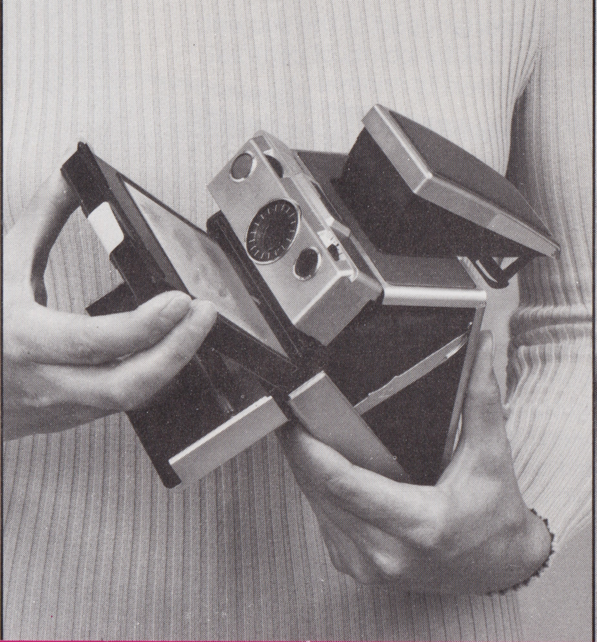
BELOW, RIGHT: When you are farther away, look for larger contrast points about as far away as your subject's face – a bright necktie or scarf, a striped shirt, etc. The zipper on the jacket would be ideal for use with the split-circle focusing aid.

BELOW: For distant groups, focus for overall crispness of the image, look for contrast between members of the group or between the group and the background. Or, focus on some easily seen object the same distance from the camera. Or, ask someone to hold up a white or colored object to help you focus.

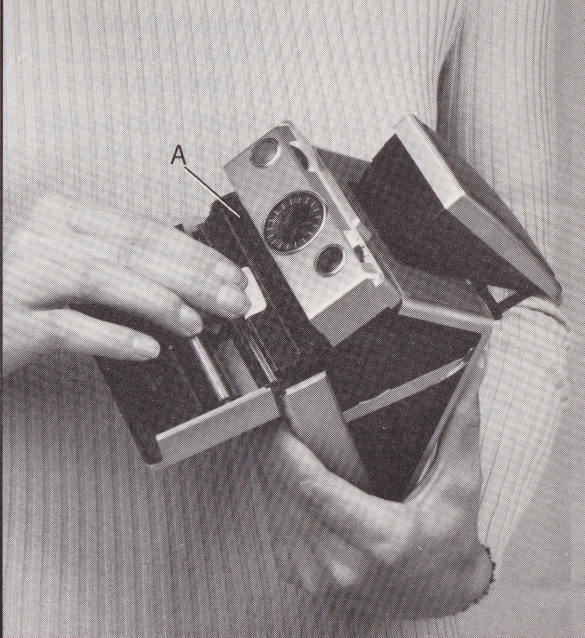
LOADING 1 Push down on the yellow bar to open the film door, which opens by itself. *Never force the door open.*


POLAROID
SX-70 LAND CAMERA

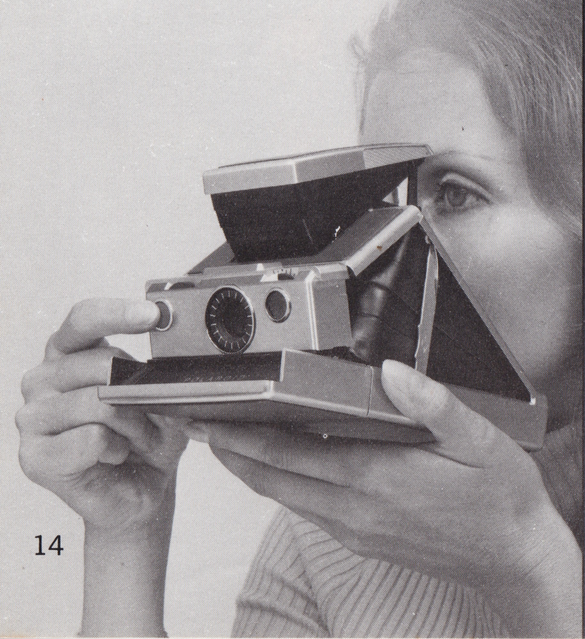
2 Insert the pack, pushing it in firmly . . .



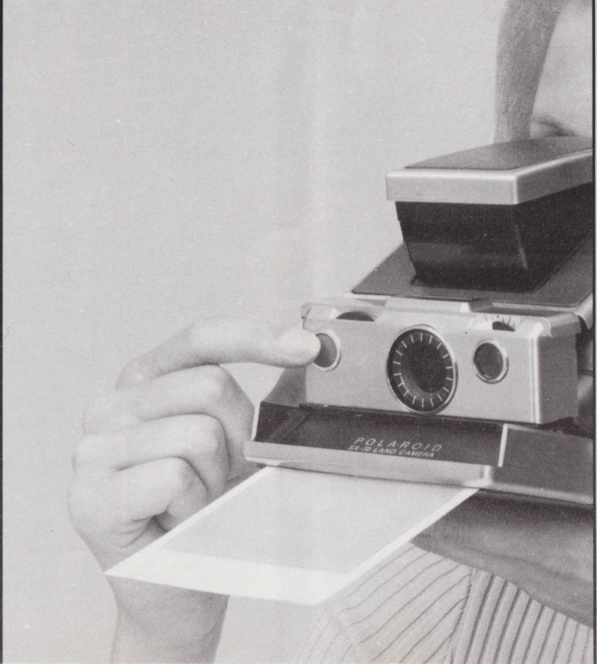
3 . . . until the end cap (A) snaps open.



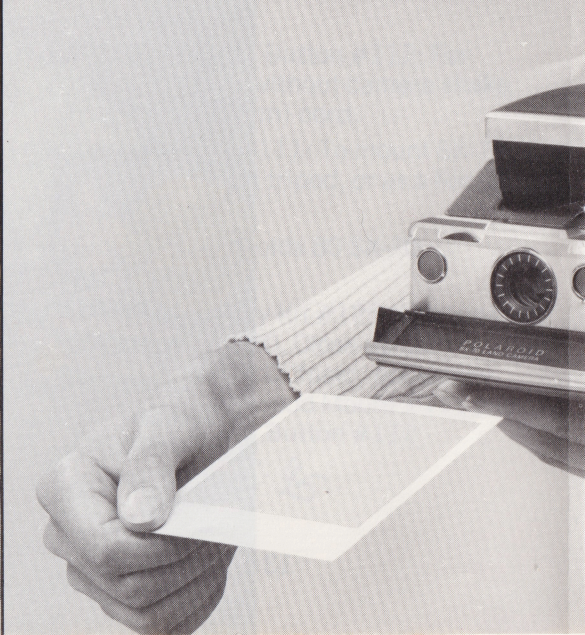
SHOOTING 1 Gently press the shutter button . . .



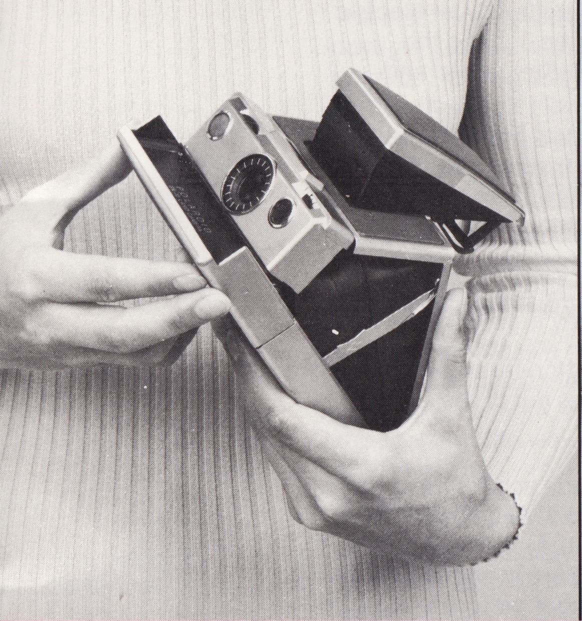
2 . . . until the picture comes out.


POLAROID
SX-70 LAND CAMERA

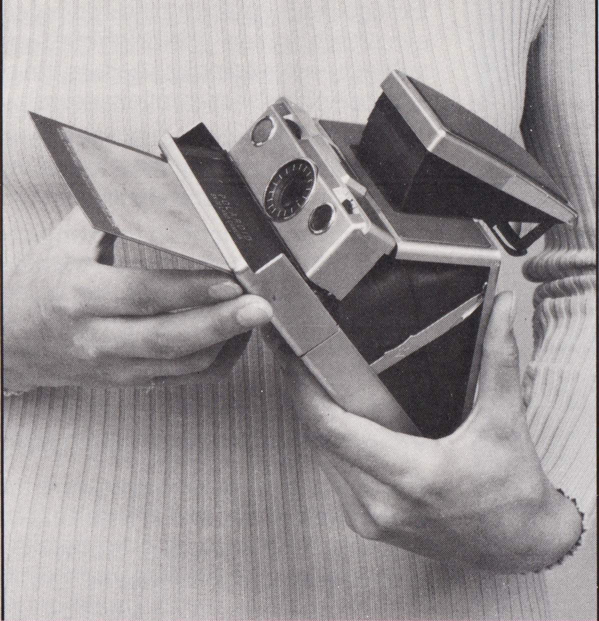
3 Remove the picture, holding it by the wide border . . .


POLAROID
SX-70 LAND CAMERA

4 Close the film door.

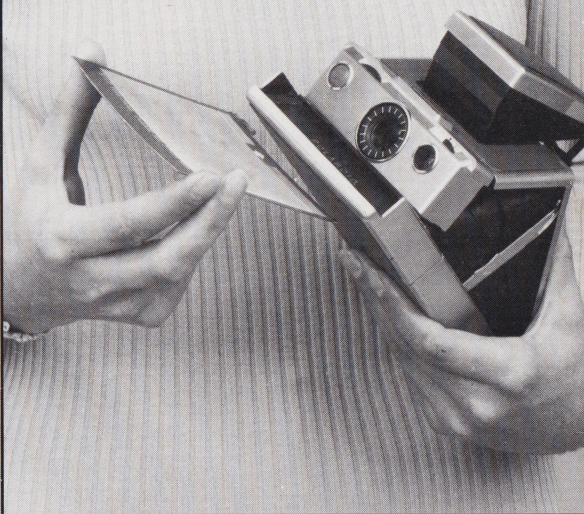


5 The film cover comes out.



6 Remove the cover; be sure to read the information printed on it.

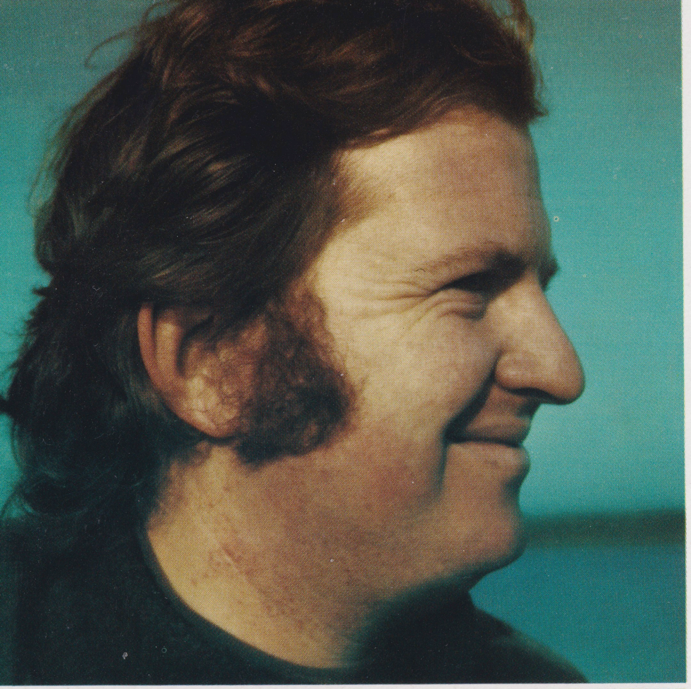
(To remove a film pack, open the film door and pull on the yellow tab.)

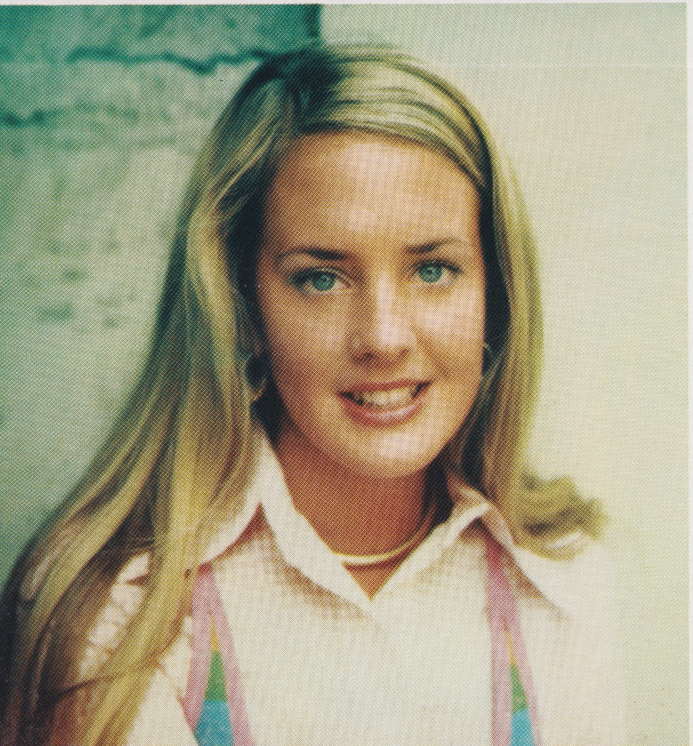


4 . . . and watch it develop . . .

5 . . . by itself. Don't squeeze or bend the picture while it is developing.

6 At first the picture will be blank, but soon details will appear. The colors will get richer until development stops after several minutes. The finished picture is flexible and highly resistant to damage.





SUCCESS WITH DAYLIGHT PICTURES

Exposure for daylight pictures is controlled by an electric eye which "reads" the brightness of the light on the subject and automatically sets the shutter speed and lens opening for correct exposure.

The electric eye can accurately handle a brief exposure in bright sun or a long time exposure in dim light, if you follow the simple rules below:

1. Stand so the light on the subject comes from behind you or from the side, but not from behind your subject.
2. Be sure that the light in the background is about as bright as the light on the subject.
3. Press the red button. Hold the button in, and hold the camera steady until the picture comes out of the exit slot.

Your first daylight pictures

The pictures on these pages were made according to the basic rules above, and are well exposed. Also, the subjects have large, colorful details, they fill most of the picture area, and the important parts are in sharp focus. You might like to start by making similar pictures.

If you should experience any picture taking problems and need help, please contact our Customer Service (see page 62).

Something about daylight

Bright sun is fine, but not if it's shining right into your subject's eyes. The best light for people pictures is on a bright, hazy day, or when a cloud passes in front of the sun. Another good light is bright open shade which, for example, you can find next to a building on a sunny day. But be sure that no obstruction (such as an awning) blocks the light from the sky.

TOP: In bright sun a profile is good. Your subject avoids looking at the sun and the lighting is even. Compare this with the picture of the girl on page 18.

BOTTOM: In the even light of a hazy day or bright open shade, shadows are soft, subjects don't squint.

The Lighten/Darken control

The electric eye will generally provide a well exposed daylight picture with the L/D control at its Normal position, as long as you follow the basic lighting rules (previous page). However, you may wish to take another, lighter or darker, picture of the same subject in the same spot with the same lighting. Simply turn the L/D control one mark toward Lighten (more white showing) or Darken (more black).

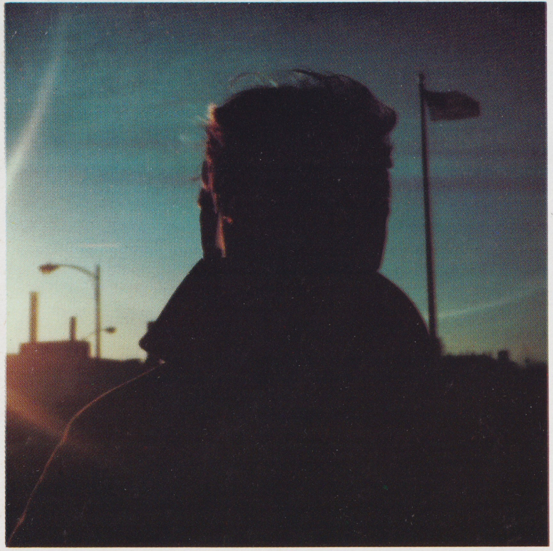
On a bright, overcast day the electric eye will "see" the light from the sky as being much brighter than the light on your subject. If your picture includes much bright sky the electric eye may be "fooled" and your subject may be too dark in the picture. Turning the L/D control one mark, or more, toward Lighten will help. Or, frame the scene in the viewfinder to reduce the amount of sky in the picture.

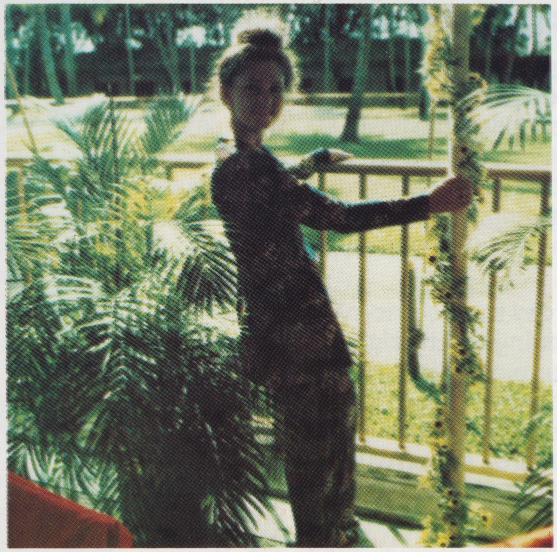
Taking pictures in hot and cold weather

Pictures develop best when the temperature is between 60°F and 85°F (15°-30°C). In cold or excessively warm weather, special precautions are necessary to assure good pictures. Please read carefully the information on page 51.

TOP: A colorful house is a good subject.

BOTTOM: Try a simple close-up outdoors. Focus very carefully and hold steady. Avoid shaky subjects, such as flowers in a breeze.

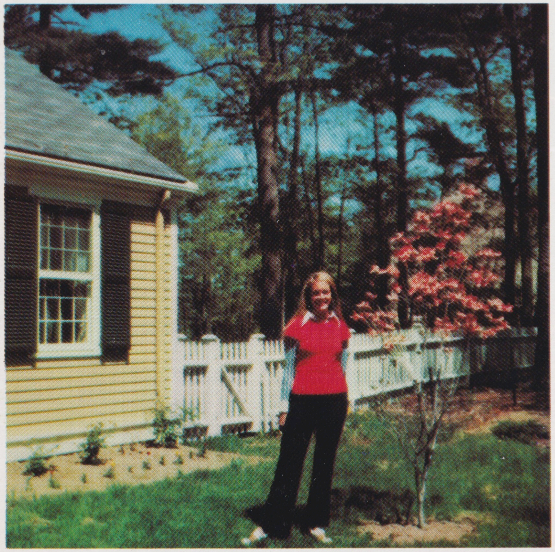


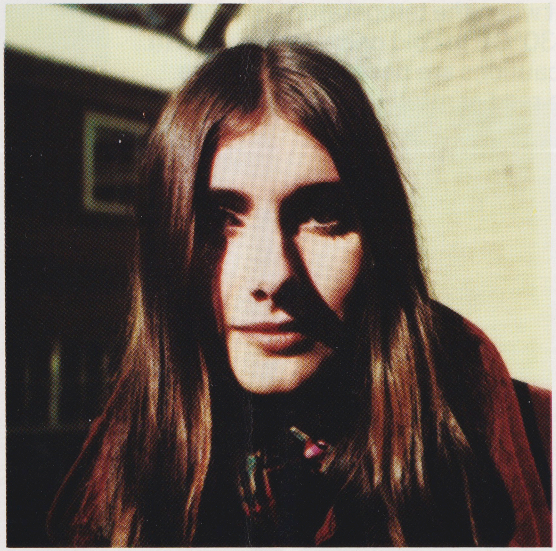


Daylight situations to avoid

FAR LEFT: If the sun is behind your subject, shining into the lens and the electric eye, you're likely to get this result. Remember – have the light on the subject coming from behind you or from the side.

LEFT: The subject is in the shade but the brightly lit background "fooled" the electric eye, so the subject is too dark. Remember – the light on the background should be about as bright as the light on the subject.





FAR LEFT: The subject is too far away and the background is a poor choice. No reason for this with the SX-70, whose viewfinder makes it easy to get near for a big image, lets you see the background and plan the picture to your taste before you shoot.

LEFT: Bright sun is uncomfortable for the subject's eyes and can cause harsh shadows. Compare this with the lighting for the profile on page 16.

OPPOSITE PAGE: Good light + color + a big image + careful focusing, all add up to a pleasing picture.

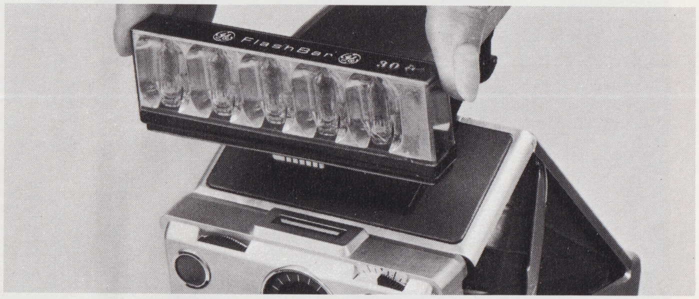
SUCCESS WITH FLASH PICTURES

As a general rule, you need to use flash indoors. For flash pictures of subjects as close as 10½ in. (27 cm) or as far away as 20 ft. (6 m), all you have to do is plug in a FlashBar, focus carefully and press the red button. Follow these rules:

1. *You must focus accurately* to get the clearest, sharpest viewfinder image of the most important part of your subject, because focusing sets the correct exposure for flash pictures automatically.
2. Your subject should be close to the background, so that both will be well lit.
3. If your picture includes more than one subject, each of these must be at about the same distance from the camera, so they will all be lit evenly.

Using the 10-bulb FlashBar

Press the connector firmly into the flash socket above the lens. *After firing the five bulbs on one side of the FlashBar, you remove and reverse it and fire the second row of bulbs.*



The camera automatically finds and fires the next good bulb facing the subject (it will skip a dud, should one turn up), so you can remove a partly fired array and use the rest of it later.

When you have taken the last picture in a film pack and the picture counter is at 0, the camera will not fire any

TOP: An excellent setting for an easy flash picture.

BOTTOM: For a close flash portrait, have the subject look to one side. This spares the eyes from discomfort and usually makes a more pleasing picture.

more flashbulbs, even if there are good ones in the FlashBar. Remove a dead FlashBar when taking pictures without flash, or you will get incorrectly exposed pictures.

Your first flash pictures

Select a well lit area so you can focus easily. Light from ordinary room lamps will not affect the exposure of your flash pictures. Place your subject near a background – colorful if possible – but avoid shiny surfaces which will reflect "hot spots". Stand about 4 ft. (1.2 m) away and focus carefully to get the clearest, sharpest viewfinder image of the most important part of your subject. Then, gently press the shutter button until your picture comes out. Watch it develop.

If your picture is too light or too dark, the camera probably was not focused accurately. Please practice focusing some more before trying to take another flash picture. If you have picture-taking problems and need help, please contact our Customer Service (see page 62).

The Lighten / Darken control

In ordinary situations don't try to correct for too light or too dark flash pictures with the L / D control. Inaccurate focusing is most likely the cause of the exposure error.

However, in a small, white room light bouncing off the walls and ceiling may cause overexposed flash pictures, even if you focus accurately. Try setting the L / D control one mark toward Darken (more black showing).

In a very large, dark area, little light is bounced onto the subject and flash pictures may be too dark. Try setting the L / D control one mark toward Lighten (more white showing). This may also be necessary with very dark subjects, even in average sized rooms.

TOP: Look for a colorful background. Or, add color with clothing, flowers, toys, or other "props".

BOTTOM: Try a simple close-up with bright, non-reflective household items. Focus carefully.

What you cannot do with flash

A flashbulb cannot provide enough light for an entire auditorium or sports stadium. Remember – the maximum distance for flash pictures is about 20 ft. (6 m).

The SX-70 is not designed to take flash pictures in bright daylight and such pictures will not be correctly exposed. For the same reason, exposure for indoor flash pictures may be affected if the subject is near a bright, sunlit window.

Preventing "red-eye"

In some flash pictures the pupils of your subject's eyes may look red. This is a reflection from blood vessels in the back of the eye, and can occur with any type of camera if the flashbulb is close to the lens. It happens most often with young, blue-eyed people in dim light. The possibility of "red-eye" can be lessened by making the room as bright as possible, to contract the pupils of the subject's eyes, and by having the subject look elsewhere than at the flash.

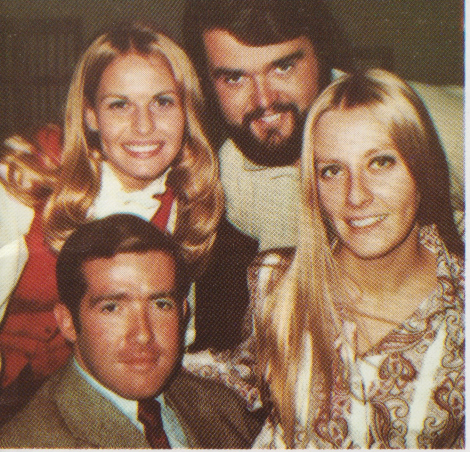
A word of caution

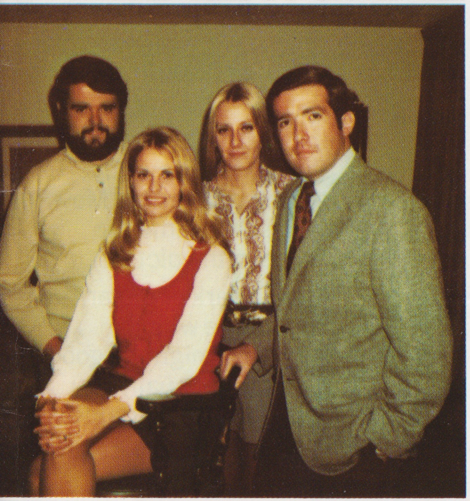
To avoid causing possible eye discomfort for subjects near to the camera – 3 ft. (1 m) or less – ask them to look elsewhere than at the flash. Having your subject turn away somewhat usually will improve the picture, too. Flash should not be used for ultra-close-up pictures of faces.

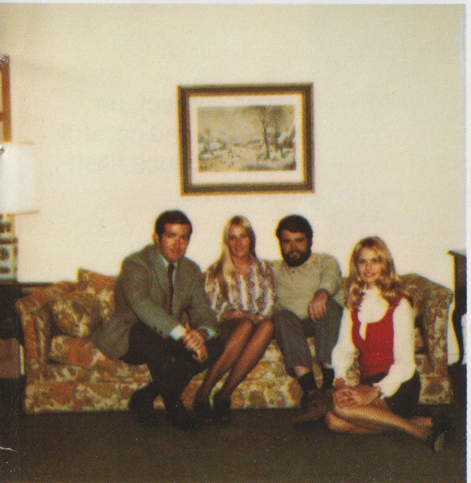
Flash pictures should not be taken where the atmosphere contains gases or dust that may be ignited by a spark.

TOP: For small people or pets the floor is a convenient background. Shoot from a fairly high angle.

BOTTOM: Group pictures are easy – if everyone is the same distance from the camera. Please read the opposite page before trying a group flash shot.







Everyone in a flash picture should be the same distance from the camera

As light travels from the flashbulb, its brightness drops rapidly. So if several people are at different distances from the camera they will not be lit evenly (pictures at right). However, if everyone is the same distance from the camera they can be lit evenly (pictures at left) whether the group is near the camera or far away.

RIGHT: The lens was focused on the nearest person, so the camera automatically set the correct exposure for that person. However, the more distant people are underexposed – too dark.

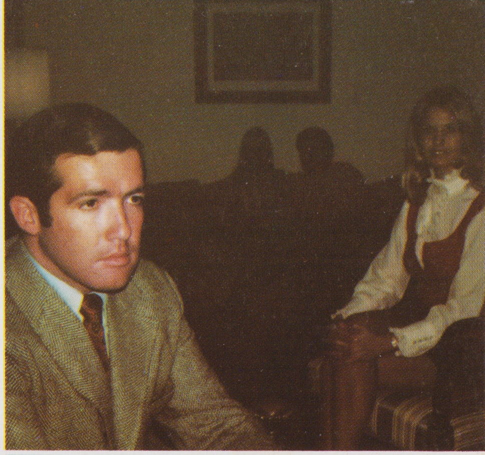
LEFT: Everyone was about the same distance from the camera, so when the lens was focused on one person, all the subjects were well exposed.

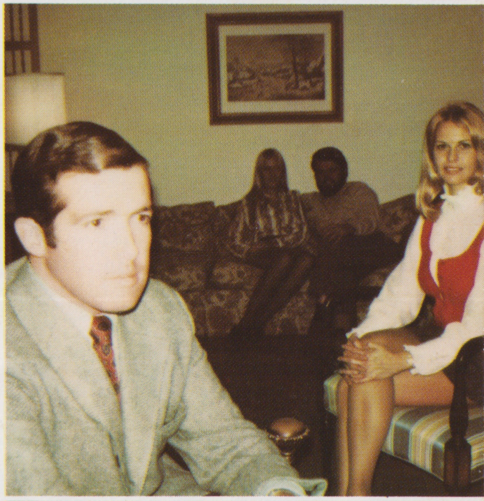
RIGHT: The lens was focused on the person midway between the near and far subjects, so the middle subject is sharp and well exposed. The nearest one is overexposed (too light) and those in the background are underexposed (too dark).

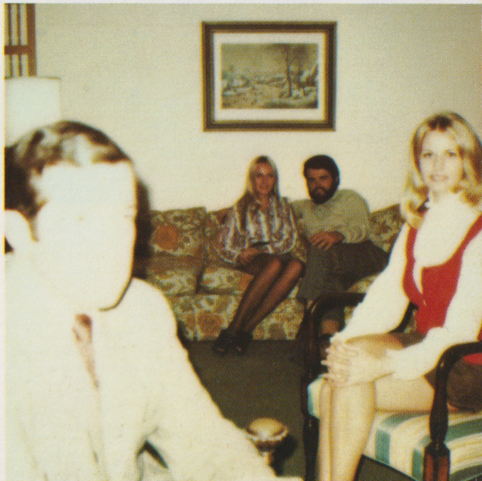
LEFT: Everyone is farther from the camera, but since they are all at the same distance they are all sharp and well exposed.

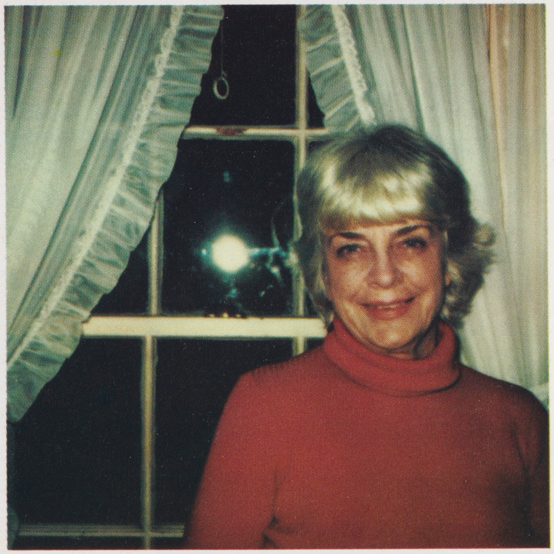
RIGHT: The lens was focused on the people farthest from the camera. Thus, the nearer subjects are overexposed – much too light – and out of focus.

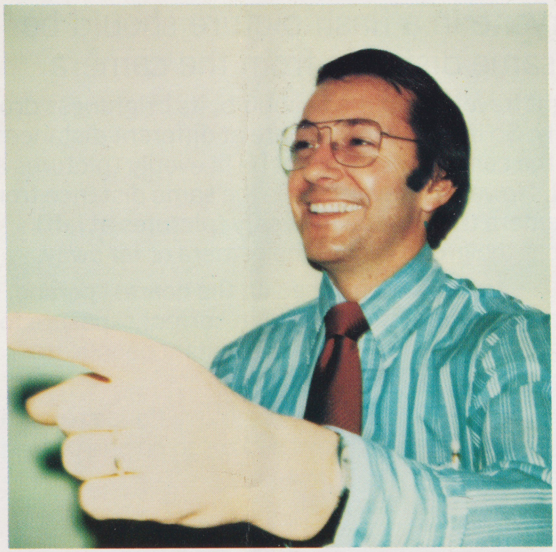
LEFT: They are far away, but since everyone is about the same distance from the camera they are all well exposed and in focus.







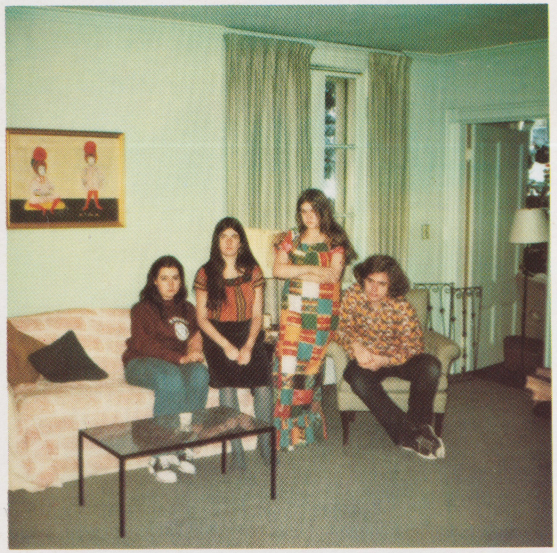


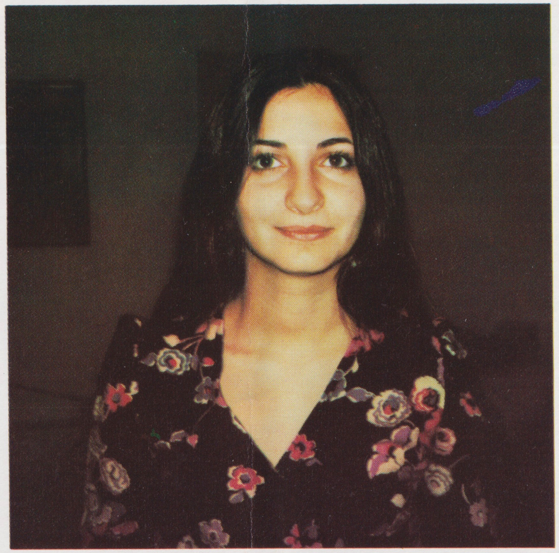


Flash errors to avoid

FAR LEFT: If you aim the flash directly at a window, mirror, painting, or any reflective surface, a "hot spot" will be bounced into the lens and the picture. To prevent this, move to the side and shoot at an angle so the light is reflected away from the lens.

LEFT: If part of your subject is much closer to the camera than the rest, that part will be distorted and too light.





FAR LEFT: If you stand too far away, you won't get clear details and good color. Move in close for a large image and frame the scene as you want it to be in the picture.

LEFT: If the background is dark or distant the subject's head may merge with it. However, a dark background might be good with a fair haired subject. But usually you will get the best picture if the background is near and colorful.

OPPOSITE PAGE: A colorful subject, an attractive nearby background, and careful focusing are all you need to produce flash pictures like this with the SX-70.

TAKE A VERY CLOSE LOOK

With the SX-70 you have the key to a whole new world of exciting, beautiful pictures – you can come as close as 10½ in. (27 cm) for pictures that show your subject at half its actual size. All you need is plenty of light and a steady camera. Use bright sun, bright open shade, or flash, for best results. In dim light, without flash, you'll need a tripod (see page 52).

For maximum sharpness overall, try to have all the important parts of your subject about the same distance from the camera. Then frame your subject as you want it to be in the picture, focus carefully to get a clear image, and shoot.

The best way to get your picture sharp under these close conditions is to set the focus wheel at its nearest setting, and then carefully move the camera back and forth slightly until you see your subject as clear and sharp as possible in the viewfinder.

TOP: When you are able to photograph tiny things, you are more likely to become aware of them. Taken in sunlight.

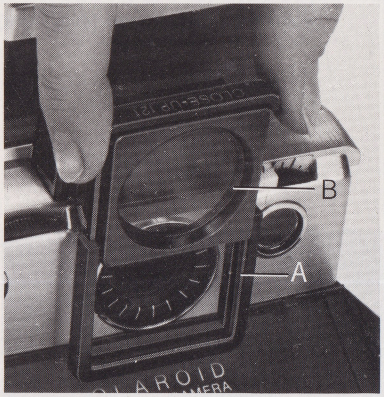
BOTTOM: The mouse could have been made even bigger by coming closer, but this was the desired effect. Taken with bright, diffused daylight.

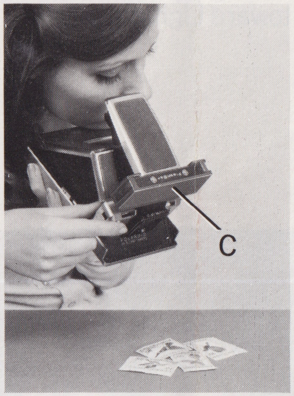
OPPOSITE PAGE: The soft textures of a peacock's feather were beautifully lit by flash, with just enough reflection to highlight the colors.

OPPOSITE PAGE: Taken in bright daylight (but not direct sun) with white paper behind the fish tank. You can restrict the movements of the fish with three sheets of glass placed at left, at right, and about halfway to the far side of the tank. A tripod will help and the tank glass must be absolutely clean.

SIMPLE ACCESSORIES FOR LIFE-SIZE PICTURES

Attach the Accessory Holder #113 (A), slip into it the Close-up Lens #121 (B), and you're all set to take life-size pictures of objects as close as 5 in. (13 cm) from the camera. For flash pictures, snap on the Flash Diffuser (C) included with the Close-up Lens.


CLOSE-UP 121
B
A
POLAROID
CAMERA



TOP: The simplest items can reveal unexpected beauty when you take a close look. Because the yarn has bulk and depth, some parts are slightly out of focus, which is good for this subject – you can almost feel its softness. The non-reflective surfaces are ideal for ultra-close flash – no "hot spot" reflections.

BOTTOM: To get the look of overall sharpness, the stamps had to be flat and all at the same distance from the camera. But to avoid a "hot spot" reflection of the flash from their smooth surfaces, the camera was aimed at a slight angle to the stamps. The red background added color and outlined the stamps clearly.

REPUBLIQUE
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RWANDAISE
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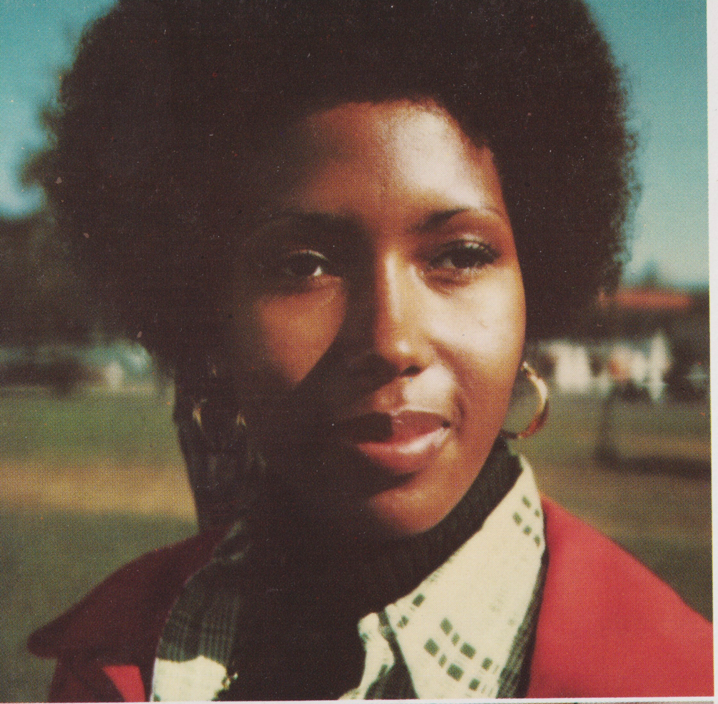


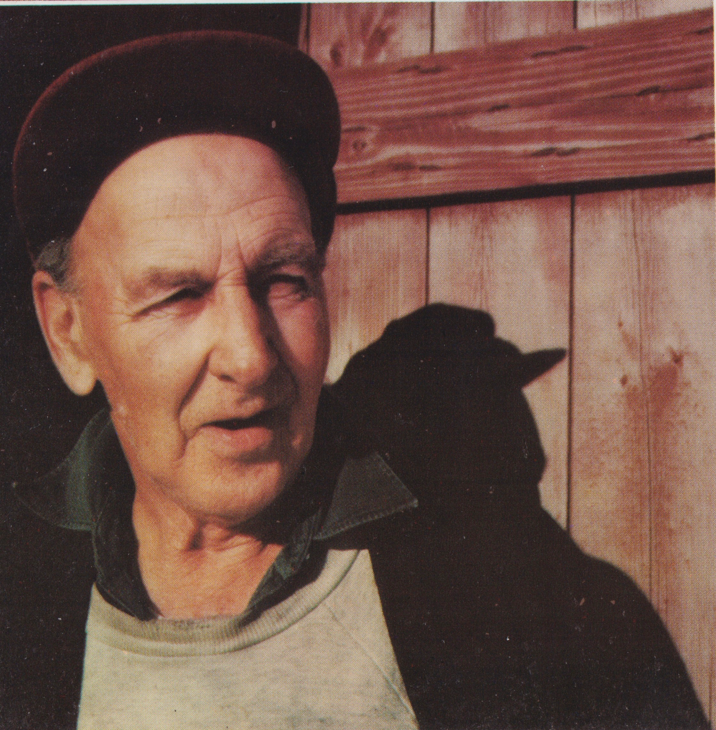
PEOPLE AND BRIGHT SUNLIGHT

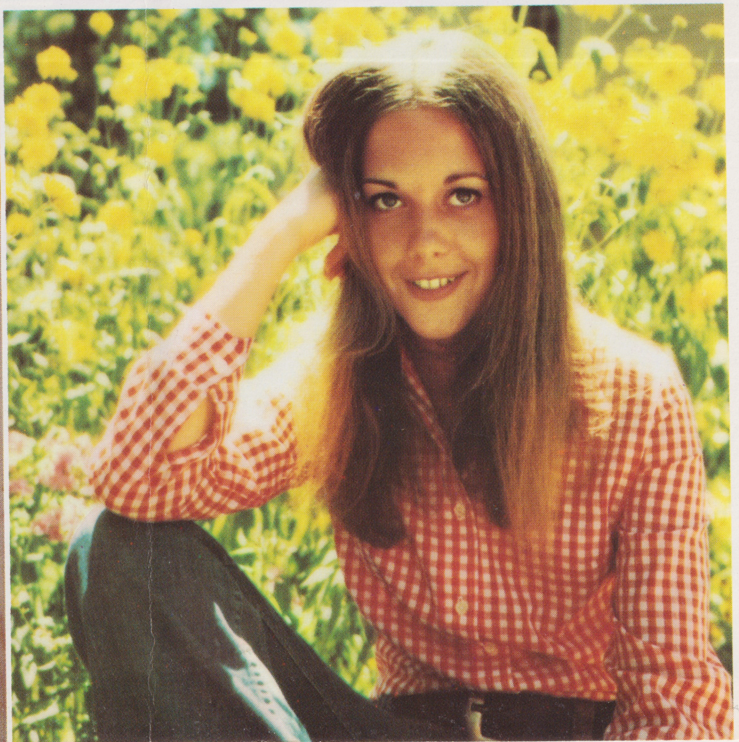
Here are several ways to avoid the main problems of bright sun portraits – squinting and harsh shadows.

LEFT: The young lady was turned away from the sun enough to avoid eye discomfort, but not so much as to put the far side of her face completely into shadow.

BELOW, LEFT: Look for natural reflectors to soften harsh shadows. Here, the wooden surface reflected light into the face shadows, softening them.

BELOW: By turning your subject's face out of the direct sunlight, you will get even light and soft shadows. This works best when the sun is high overhead. Be sure that the light does not shine into the lens or the electric eye; also, turn the Lighten / Darken control two marks toward Lighten.





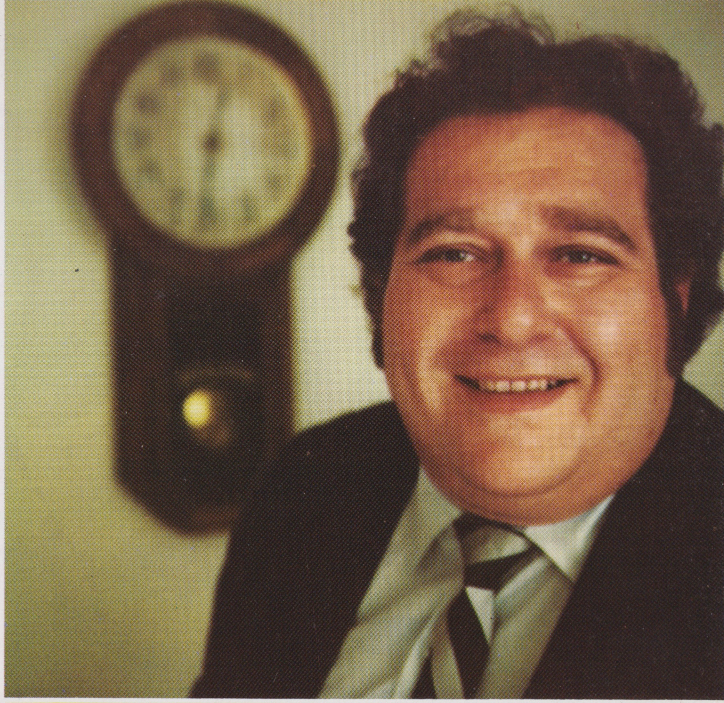
PEOPLE AND WINDOW LIGHT

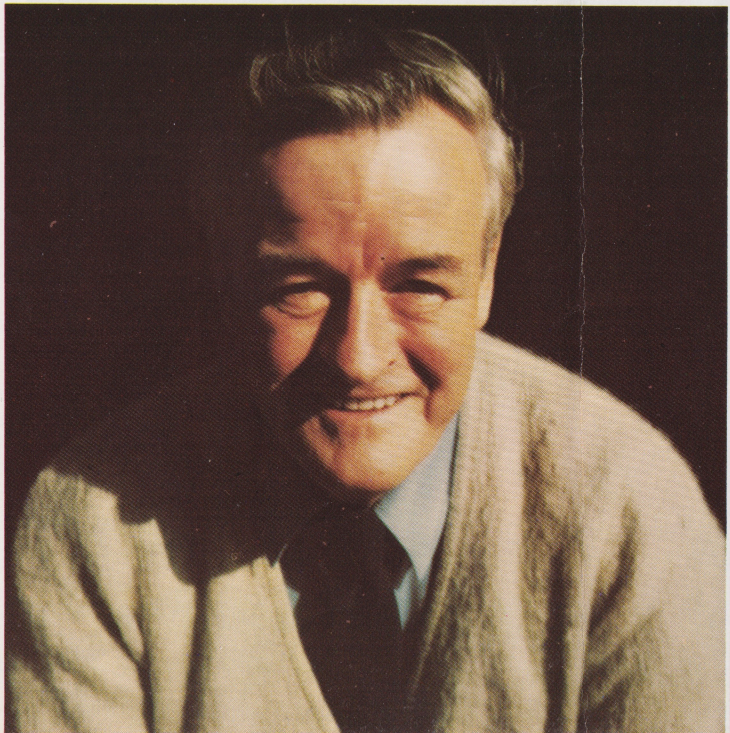
A big window is a fine light source for portraits. You can get varied lighting effects by changing the position of the camera and subject in relation to the window. To soften and diffuse sunlight, a thin, white gauze curtain is effective.

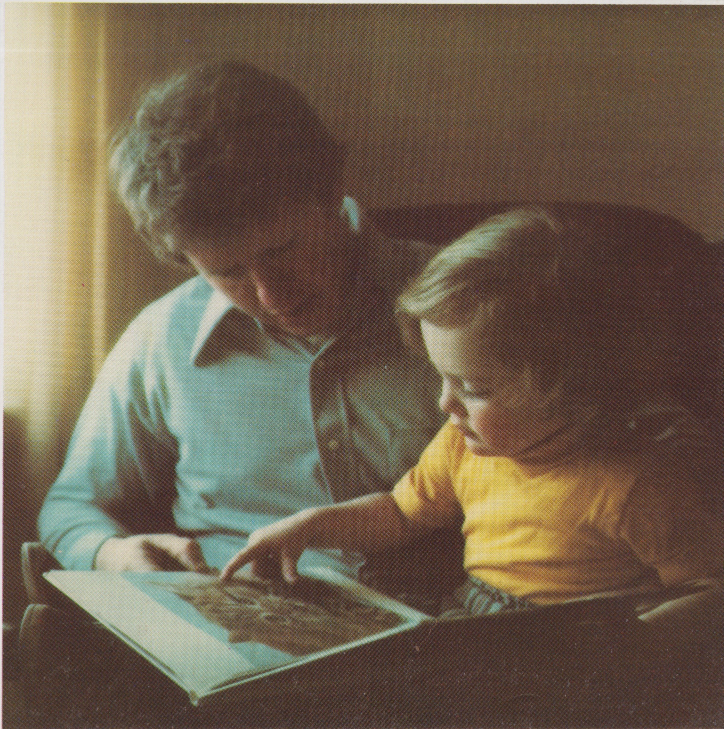
RIGHT: The window is behind the camera, and the subject is lit evenly. The background outlines the subject.

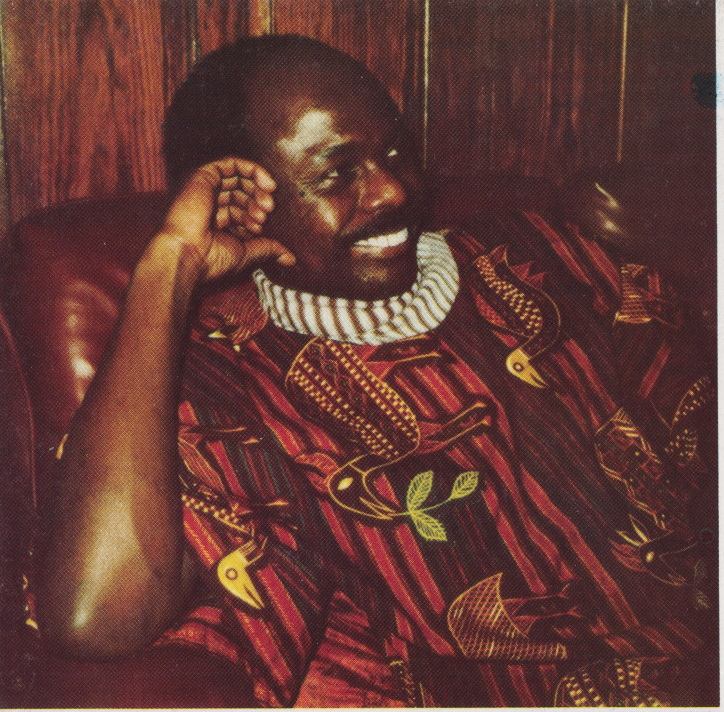
BELOW, RIGHT: The camera is at about a 45 degree angle to the window; the light is soft, suitable for the scene. The book reflects some light onto the faces.

BELOW: For a dramatic portrait, place the camera and subject at right angles to the light. Or, with the camera in that position, let the subject face the window for a profile or three-quarter view.









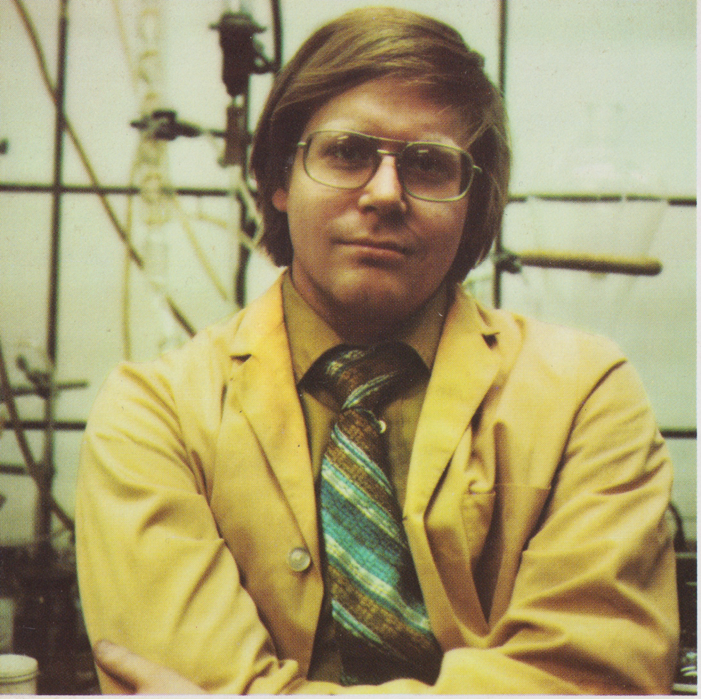
PEOPLE AND FLASH

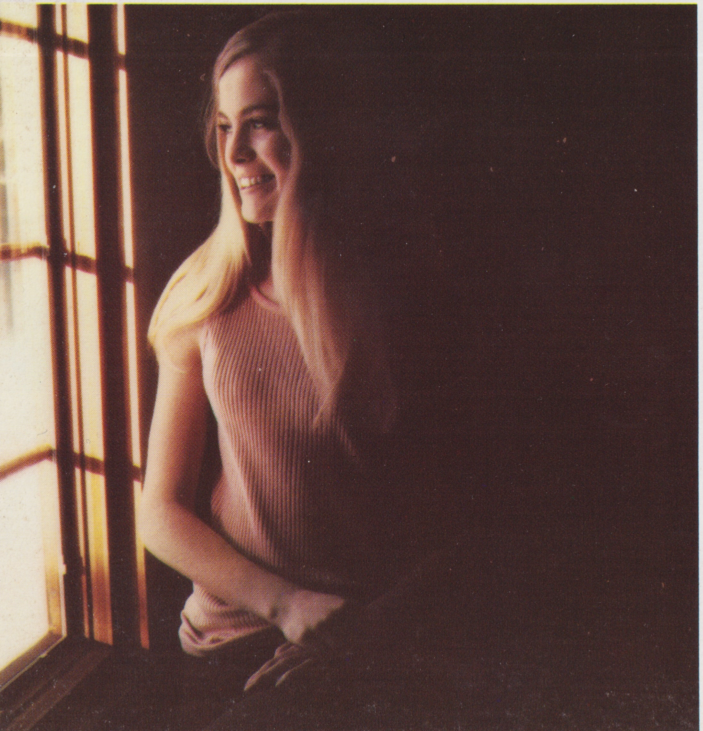
Many of your pictures of people will be taken by flash indoors. Basic information about flash pictures starts on page 20. These pages illustrate how a little planning and attention to detail can make your pictures more satisfying.

All these pictures have certain features which make them good. They are lit evenly and are well exposed. The backgrounds are nearby, so that they are well lit, and the people are clearly outlined. For group pictures, all subjects were about the same distance from the camera. Each picture was focused carefully to get the sharpest image in the viewfinder. The subjects pretty well fill the picture area – little space is wasted.

People are most interesting when they are doing something. Such simple actions as lighting a pipe, reading a book, looking into a mirror, stirring a cup of tea, or talking on the telephone, can add interest to a picture.

Notice that in three of the pictures at right, parts of the subjects' heads have been left off. These pictures show how the SX-70 viewfinder lets you "crop" very closely and accurately to concentrate attention – a technique used by professional photographers.





"AVAILABLE LIGHT" INDOORS

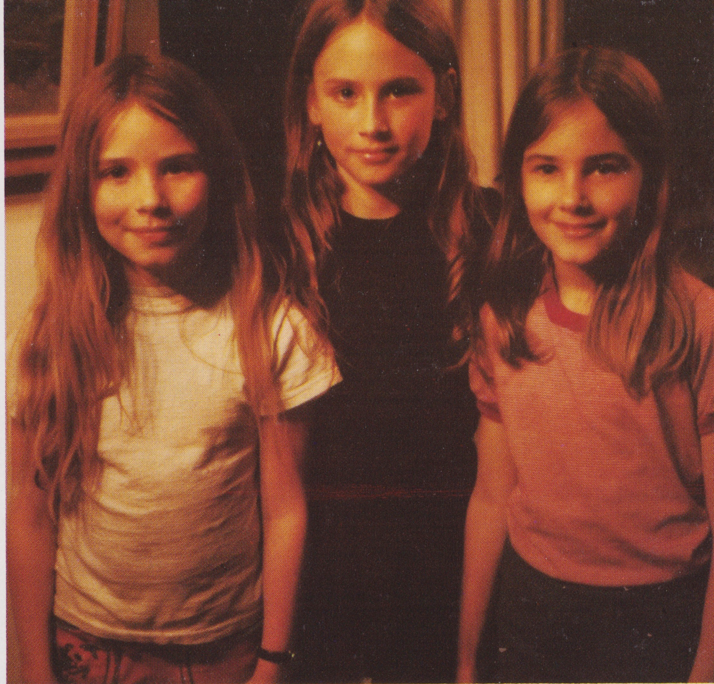
SX-70 film gives the most natural and pleasing colors when it is exposed in sunny daylight or with the light from a FlashBar array. You can also get beautiful pictures indoors with other kinds of lighting, but they will look quite different from flash or daylight pictures. As these "available light" sources are not as bright as daylight or flash, the camera usually will set a slow shutter speed or make a time exposure in order to give good results. A tripod or other firm support may be necessary.

Although pictures taken indoors without flash may not reproduce faithfully the colors of the subject, they often have a charm and beauty all their own.

TOP: Fluorescent lighting tends to give a greenish tint, the amount of green depending on the type of tube. However, certain types of "daylight" tube give reasonably pleasant skin tones with SX-70 film.

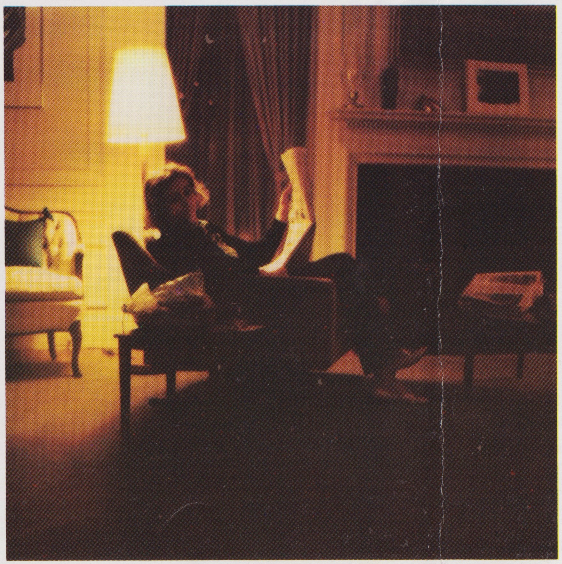
BOTTOM: Sunny daylight is made up of all the colors of the spectrum, from violet to red. Where direct sunlight does not reach the subject, there will generally be a bluish color cast. Here, parts of the subject are in sunlight, and have natural colors. Parts facing the inside of the room, which are not in direct sunlight, tend to look bluish.

RIGHT: The light from ordinary tungsten lamps used in most homes lacks much of the blue that is a part of daylight. So, when used with SX-70 film, which is designed for daylight and flash, tungsten lighting produces pictures with orange and reddish tones.



Avoid this

A bright lamp or window in an otherwise dimly lit scene will "fool" the electric eye and your subject will be too dark in the picture (below). You'll get best results when the scene is lit fairly evenly; then, the electric eye will be able to produce well exposed pictures, even in quite dim light where a time exposure is needed.

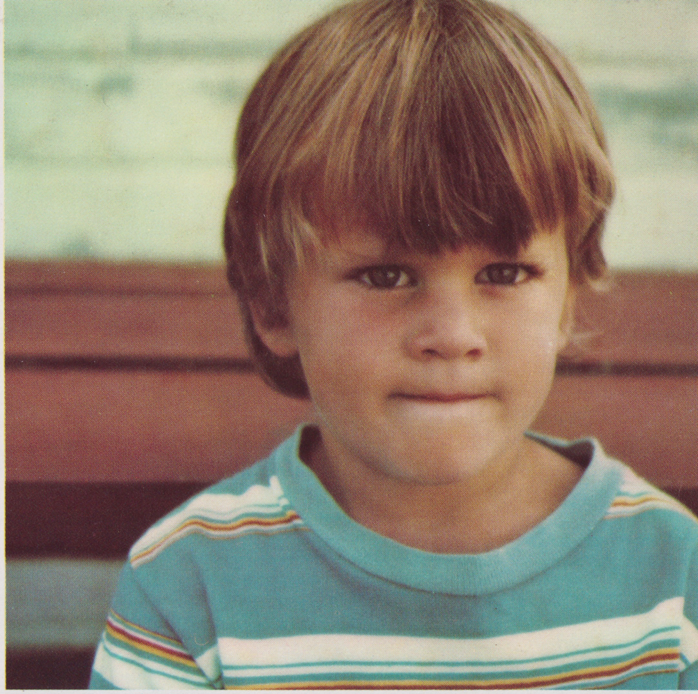


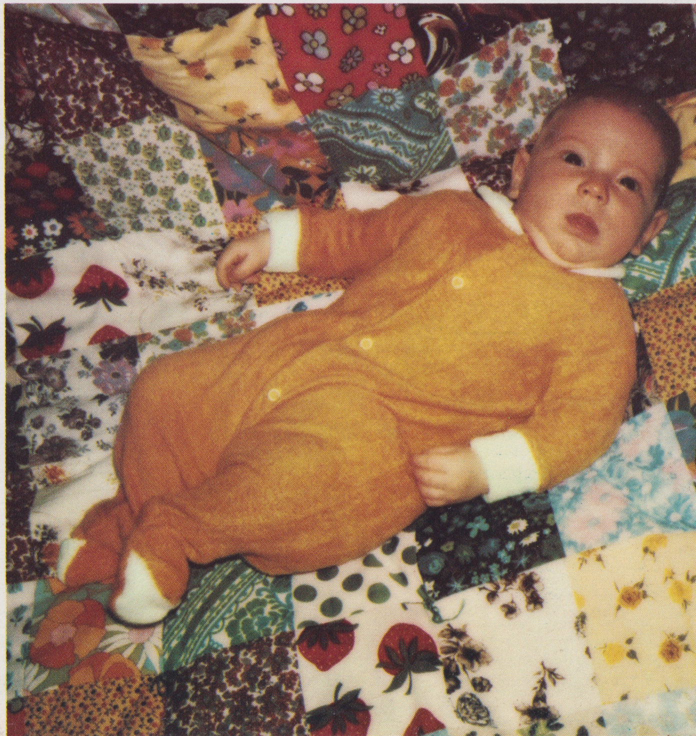
BACKGROUND AND FOREGROUND

When you are shooting children or small animals, you can either aim down from your own height or you can get down toward their own eyelevel. Whichever you choose, remember that, for a picture to be good, the background must be right. When your picture contains a prominent foreground item, there should be a clearly visible separation between the subject and the foreground.

TOP ROW: When you are at the subject's eyelevel, watch the background. In the daylight shots of the parrot and the boy, distant backgrounds have dropped out of sharp focus, but are still well separated from the subjects. If the camera had been held higher, the subjects would have been too low in relation to the background, and would not have stood out clearly.

The subject should stand out clearly, not only against the background, but also against any foreground material. In the picture of the girl with the fan, note how the girl, the fan and the background are each separated clearly by differing color values.





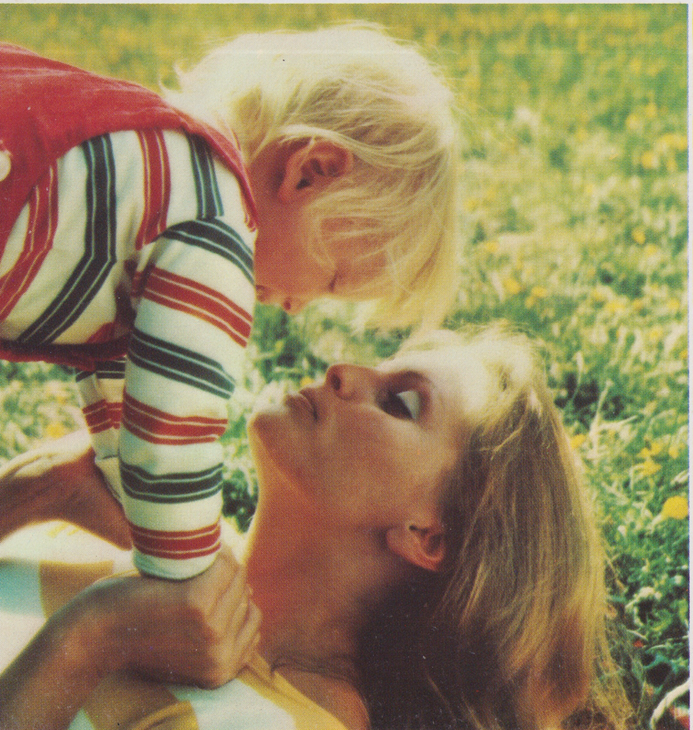
BOTTOM ROW: When you aim down at a small subject, the background usually is quite near and simple – the floor, a beach, a bed or chair, etc. For flash pictures it is important to aim down at a rather sharp angle so that the background will be lit fairly evenly, as in the picture of the little girl and Raggedy Ann. The picture of the young sailor was made in daylight, where it is not necessary for the entire background to be nearby.

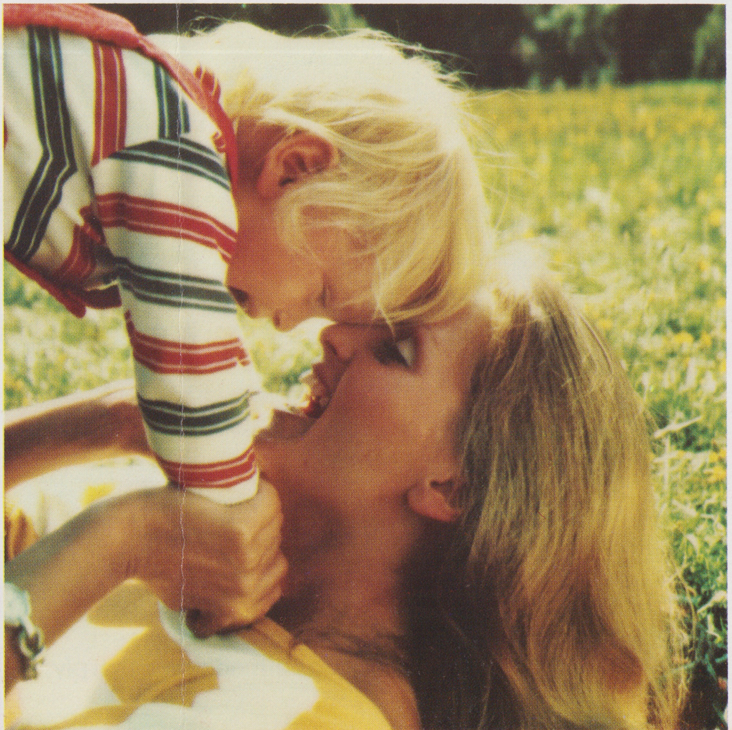
For the infant-on-the-bed shot, the patchwork quilt was spread to provide a colorful background, the baby was placed diagonally across the picture to get the largest possible image, and the camera was aimed down sharply.

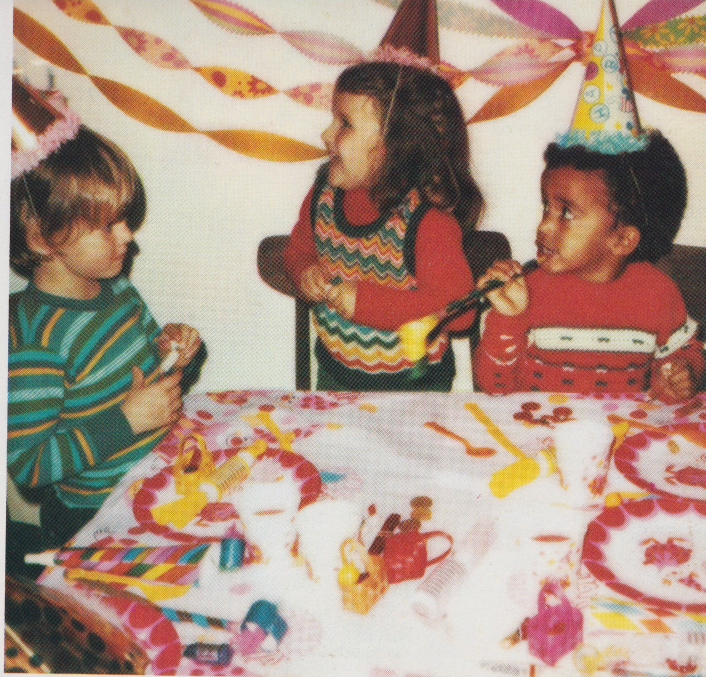
SHOOT A SERIES WITH DAYLIGHT OR FLASH

Shooting a series is more than just pressing the shutter button every two seconds. The best series pictures tell a story and they can be spaced seconds apart, or minutes, or even hours or days. Because you're going to use up a considerable amount of film, and maybe some flashbulbs, it's a good idea to take a test picture first, if possible.

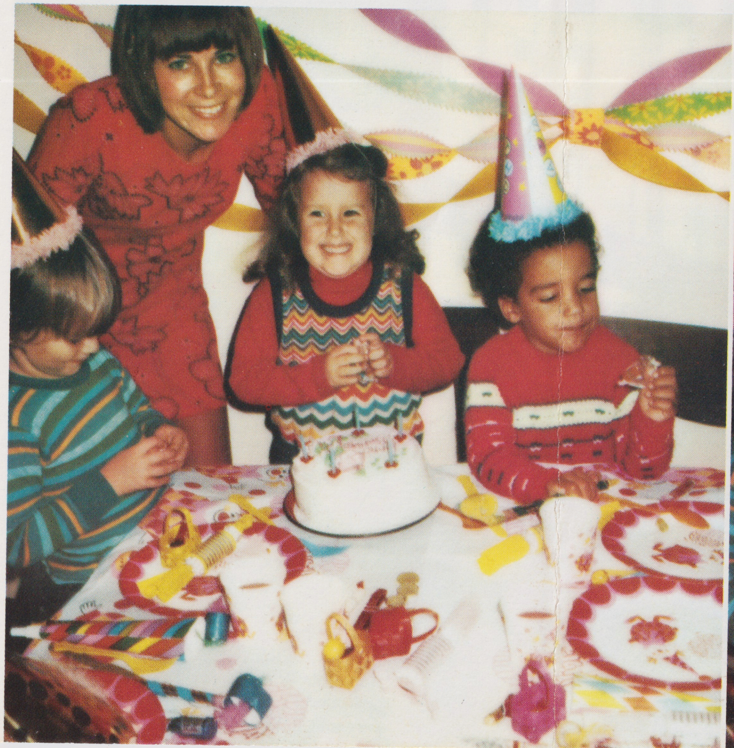
This mother and child were in direct sunlight, but the photographer wanted soft, even illumination on both faces. So, the little boy was placed to look away from the sun and also to shade his mother's face. To get correct exposure for the shaded faces the Lighten/ Darken control was set two marks toward Lighten. Shooting from varying distances added interest to this sequence.

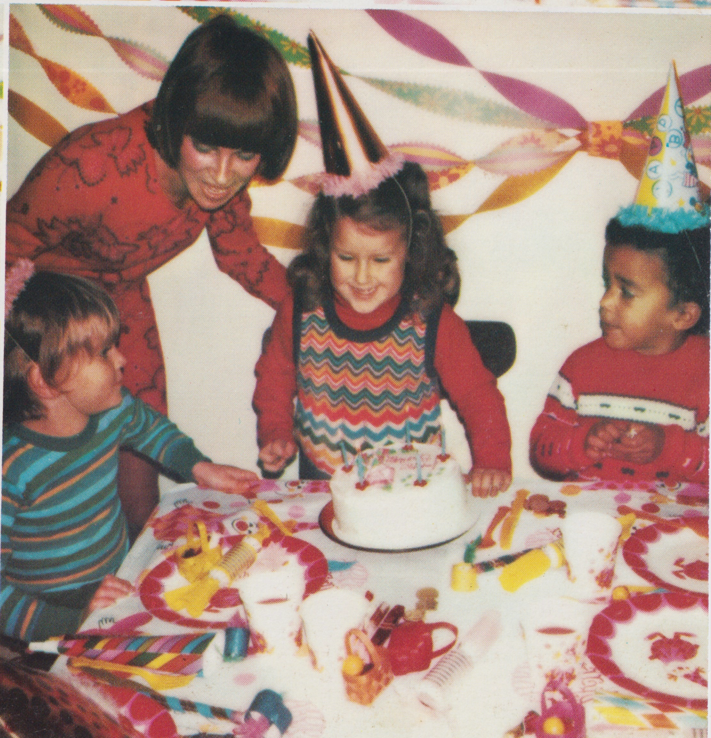






In this flash series everyone is about the same distance from the camera, so each person is lighted evenly. The near side of the table is overexposed, but that's to be expected. To assure correct exposure, when recording an event like this, refocus carefully before each flash picture.





SCENIC PICTURES: Keep them simple; don't include too much

Don't try to include too much from too far away in a scene. Add foreground interest.

These pictures concentrate attention on one part of a scene, yet each tells much about the entire setting. For example, the piece of barn implies a whole farm, just as the brilliant autumn leaves tell you that the countryside must be ablaze with color.

EVA GRACE
PROSPECT HARBOR
MAINE

SCENIC PICTURES: Lighting sets the mood

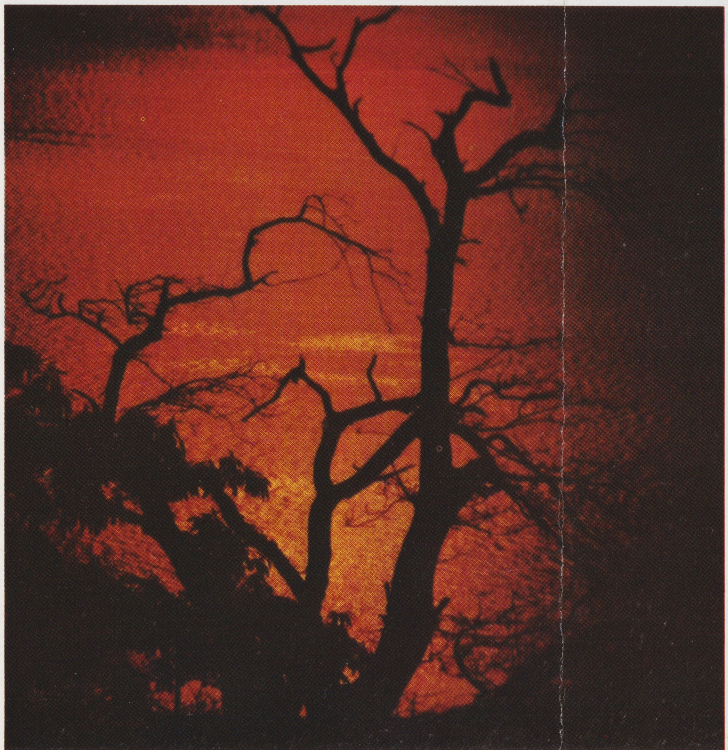
As these pictures show, almost any kind of lighting can be right for a scenic picture.

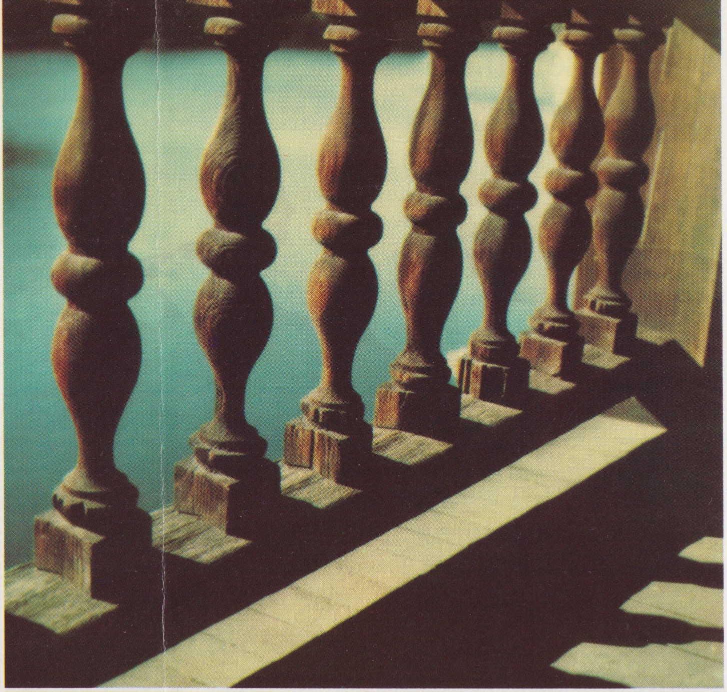
For the pale sunset and the foggy day picture the light was weak – the camera had to make a relatively long exposure. A tripod helps in such situations.

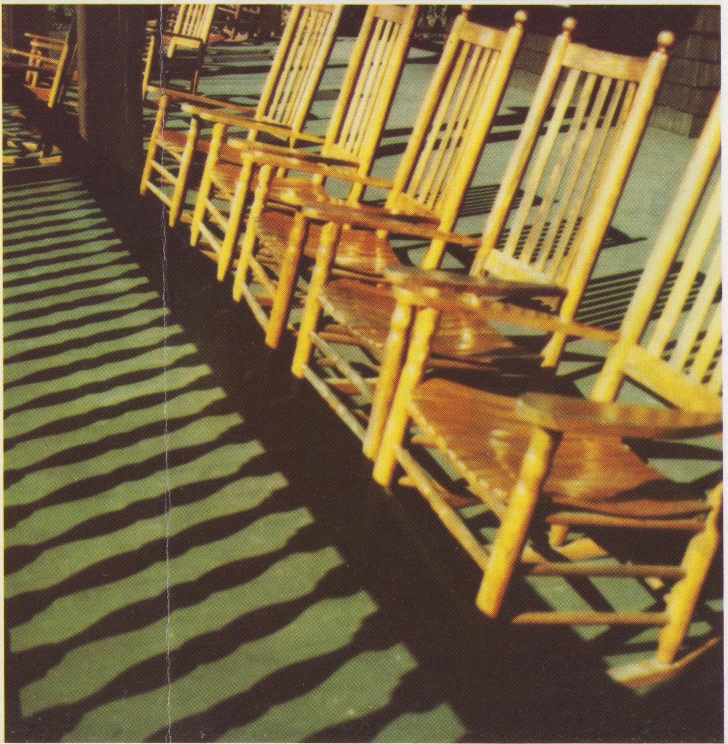
The diagonal fence leads the eye to the tree. These two simple elements combine to make a striking picture.

Would the fishing boats be as interesting if you could see the far shore, or the brilliant orange reflection as memorable without the silhouetted trees?

All of these scenes were clearly visible in the SX-70 viewfinder before the pictures were taken. You can use the viewfinder just as successfully.







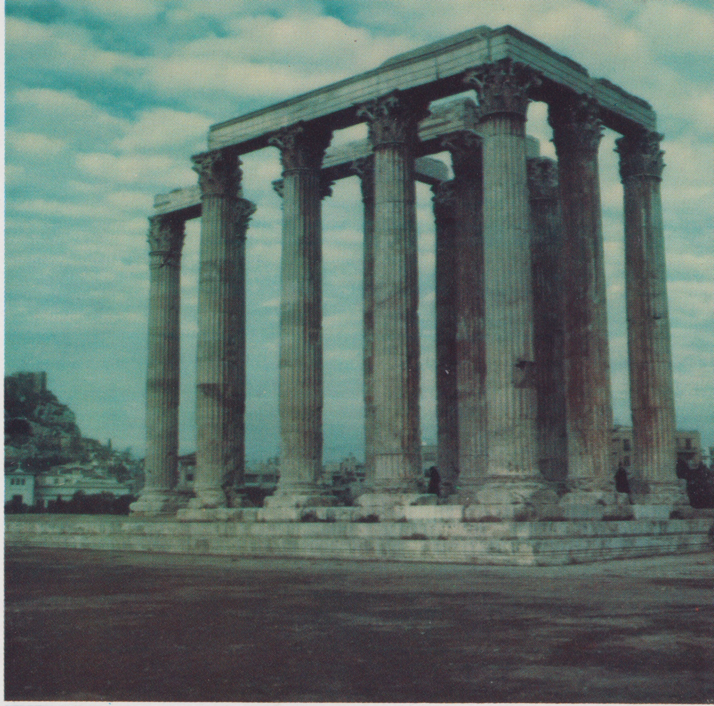
WAYS TO SEE A SUBJECT

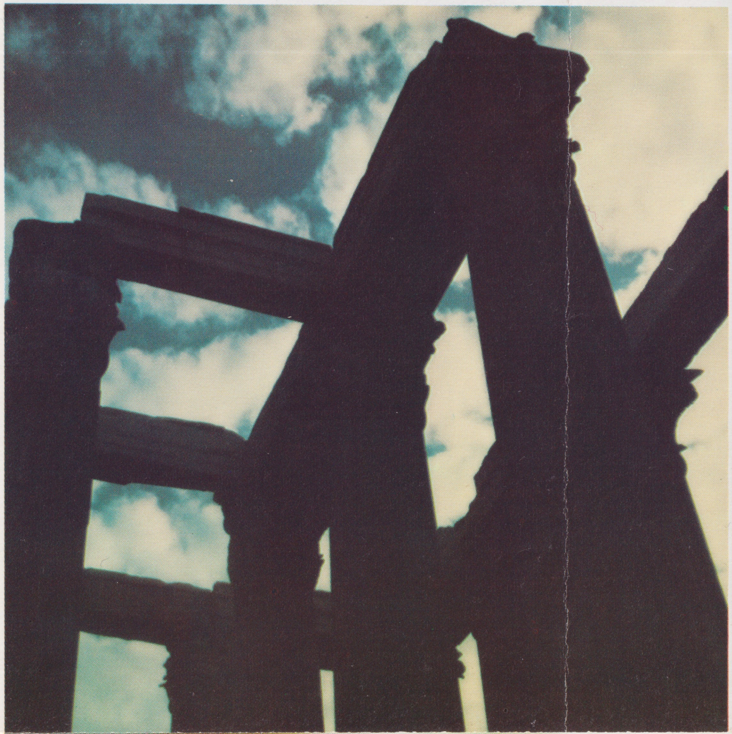
Why stop after taking one picture of a subject? By changing angle, lighting, distance, etc. you can make a more interesting record than any single picture could provide. Here are a few examples.

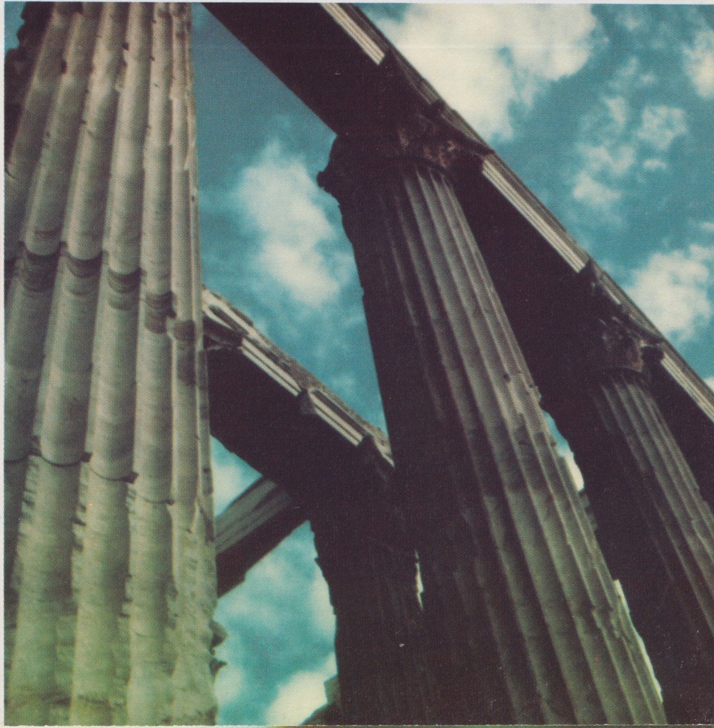
FAR LEFT: The portrait of the potter at work means more when paired with the close-up study of her hands.

LEFT: Bright sunlight shining through a porch railing created many combinations of patterns and shadows. First, the pattern of the rails themselves, with just a hint of the shadows cast by them. Then, the shadow of the rails lining up with the rockers. The shadow of the rockers would make a third interesting picture.

THIS PAGE: A Greek temple (right) is taken from two more unusual perspectives, and with different lighting effects. For the picture below right, the light on the subject came from behind the photographer and slightly from one side. For the picture directly below, the photographer faced the sun to produce a striking silhouette.







naar Blommers

COPYING OBJECTS AND PICTURES

The SX-70 is ideal for photographing objects, small and large, outdoors, in museums, or at home.

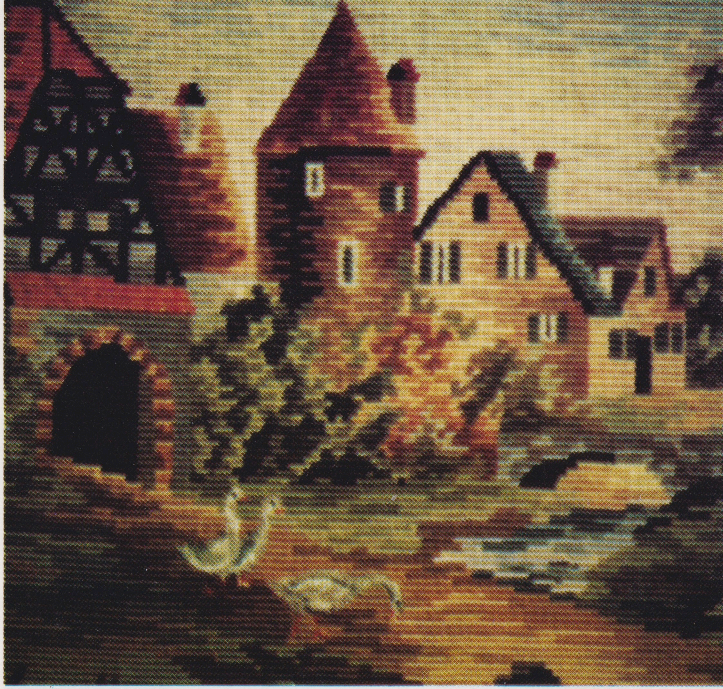
Both photographs at the top left were taken with window light. For an available light picture, the lens will usually be open to its maximum size; the zone of sharp focus will be shallow and you will not be able to get everything in sharp focus. Focus carefully on the part of the object that you want to have sharp in your picture and hold the camera steady. A tripod is useful for time exposures (see page 52). If you don't have one, steady the camera by bracing it against a wall or table, always making sure that the picture exit slot is not blocked.

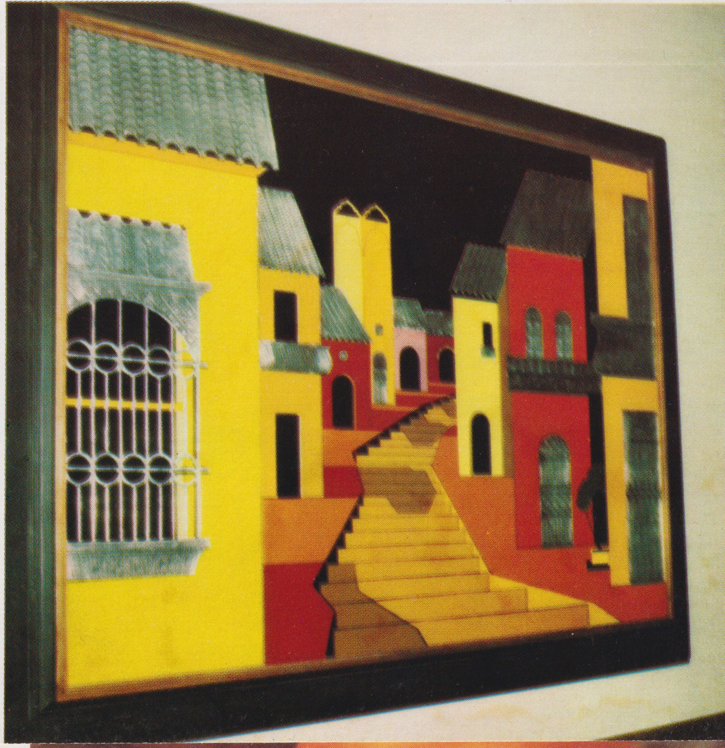
When photographing small objects with flash, watch the background and the camera angle. A non-reflective material such as fabric or dull paper of a plain, bright color displays the objects best. Note that, as the object gets farther away from the background, the shadows cast by the flash will be more pronounced, and the lighting on the background will be dimmer.

Many small objects – both the horse and the plate at the bottom left are examples – have highly reflective surfaces and light bouncing off these surfaces can cause "hot spots" in your pictures. Avoid this problem by aiming the camera at an angle to the object while photographing it.

To avoid "hot spot" reflections when taking flash pictures of paintings, posters, maps and other large smooth surfaces, stand opposite one end of the object and shoot the picture at an angle. The picture at right is a good example of how to do it.

Non-reflective surfaces, like the needlepoint at the top of this page, can be photographed head-on.





RECORD THE UNEXPECTED

If you carry your camera wherever you go, you may have the luck to catch an eye-stopper like the ones on these pages. Whether the picture came about through careful planning, patient waiting, or sheer luck, the result in each case is a striking one.

BOSTON
Capitol
T
BOOKS
RECORDS

TIME EXPOSURES

In dim light, your camera can make automatic time exposures as long as 14 seconds. For best results, the light on the scene should be fairly even. Indoors, a bright lamp or window in the scene may "fool" the electric eye and cause the rest of your picture to be too dark.

The camera should be on a firm support – a tripod is best, and you'll need a tripod adapter (page 52). The remote shutter button (also page 52) is helpful in preventing camera shake.

Press the red shutter button gently for at least a full second – you will hear the mirror in the camera go up. Then you can let go of the button and the camera will do the rest by itself. When the electric eye has completed timing the exposure, the shutter will close and the picture will come out and start to develop.

COLD AND HOT WEATHER PICTURES

You can take SX-70 pictures in a wide variety of temperatures and weather conditions, but you should use care in developing pictures taken outside the range of 60°F-85°F (15°C-30°C). At temperatures lower than 60°F or higher than 85°F, development processes may be somewhat affected, causing pictures to be darker or lighter than normal. To compensate for the effects of temperature, follow the suggestions below.

Taking pictures in the cold

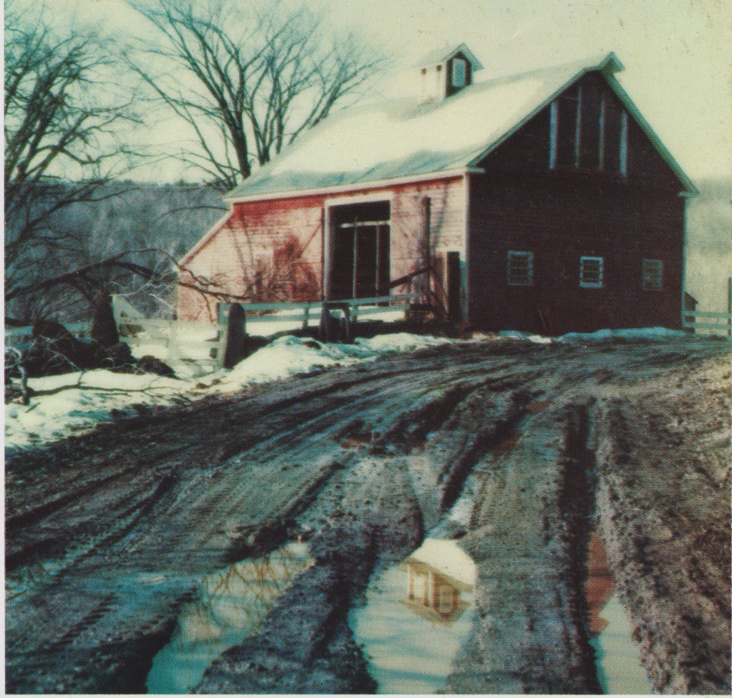
At temperatures below 60°F (15°C), keep the camera and film warm – inside your coat or in a warm inside pocket for example – until you are ready to take a picture. Then put the developing picture inside your coat or into a warm inside pocket as soon as it comes out of the camera, being careful to avoid bending it. In addition, you may want to turn the Lighten/Darken control one or two marks toward Lighten.

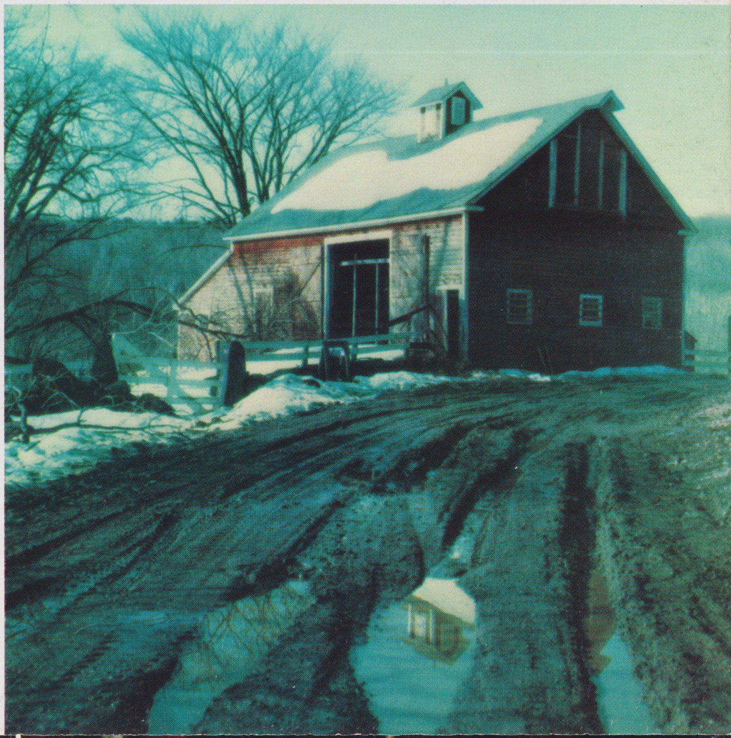
If the camera and film are permitted to get cold, you may get a picture that is too dark and too blue, as illustrated by the bottom picture. To keep this effect to a minimum, keep the developing picture warm, and turn the Lighten/Darken control one or two marks toward Lighten.

Taking pictures in extreme heat

When the temperature is over 85°F (30°C), the effective light sensitivity of the film increases, and your picture may be too light. Turn the Lighten/Darken control toward Darken, one mark if a small amount of adjustment is needed, two if more is required.

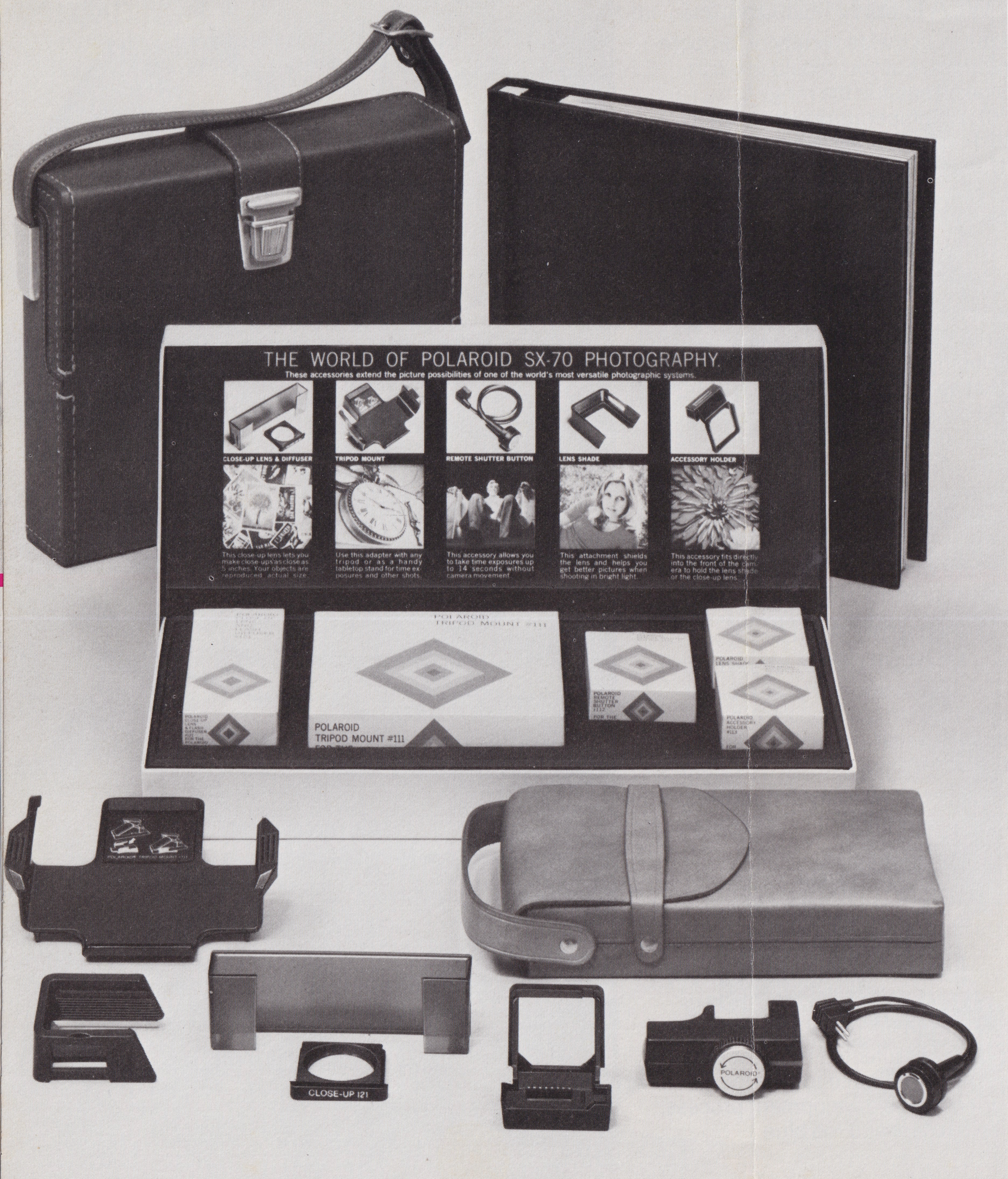
In hot weather, you should not allow a developing picture to "bake" in the heat of direct sunlight or on a surface warmed by the sun.





TOP: The camera was kept warm before taking the picture and as soon as the exposed film came out it was put into a warm pocket. These simple precautions made it possible to get excellent results, despite the cold.

BOTTOM: The camera was not protected from the cold beforehand and the picture was allowed to develop in the open air. The cold affected the development process, causing the picture to be too dark and too blue.


THE WORLD OF POLAROID SX-70 PHOTOGRAPHY.
These accessories extend the picture possibilities of one of the world's most versatile photographic systems.
CLOSE-UP LENS & DIFFUSER
TRIPOD MOUNT
REMOTE SHUTTER BUTTON
LENS SHADE
ACCESSORY HOLDER
This close-up lens lets you make close-ups as close as 5 inches. Your objects are reproduced actual size.
Use this adapter with any tripod or as a handy tabletop stand for time exposures and other shots.
This accessory allows you to take time exposures up to 14 seconds without camera movement.
This attachment shields the lens and helps you get better pictures when shooting in bright light.
This accessory fits directly into the front of the camera to hold the lens shade or the close-up lens.
POLAROID
TRIPOD MOUNT #111
POLAROID
TRIPOD MOUNT #111
CLOSE-UP 121
POLAROID

ACCESSORIES

The following accessories can be used with the SX-70, to add to your picture taking fun.

10-00 Carrying Case #114 (top-grain cowhide): Matches leather on camera. With carrying strap.

Compartment Case #116: Designed to carry SX-70, extra film, FlashBars and accessories. With handy shoulder strap.

Accessory Holder #113: Snaps into front of camera and is used for mounting Close-up Lens and / or Lens Shade.

Close-up Lens #121 and Flash Diffuser: Kit enables you to make actual-size pictures of objects 5 in. (13 cm) from camera, with or without flash.

Lens Shade #120: To shield camera lens from direct sun.

Self Timer #132: Want to get into the picture yourself? It takes the picture for you about 12 sec. after you press the button.

Remote Shutter Button #112: For long exposures without camera shake. Has 18 in. (45 cm) cord.

Tripod Mount #111: To mount SX-70 on any standard tripod, or as a handy table-top stand.

Album #117: Holds 80 SX-70 pictures.

SX-70 Accessory Kit #125: Contains Lens Shade #120, Close-up Lens #121 and Flash Diffuser, Accessory Holder #113, Tripod Mount #111 and Remote Shutter Button #112.

17.95

IT'S EASY TO GET EXTRA PRINTS AND ENLARGEMENTS

Share your favorite SX-70 pictures with family and friends. The virtually grainless prints can be made into beautiful copies and enlargements, as shown here. Polaroid Copy Service is equipped to give prompt, high-quality results. Order from your dealer, or contact the nearest Polaroid office (see list of addresses on page 63).

CARE OF YOUR SX-70 SYSTEM

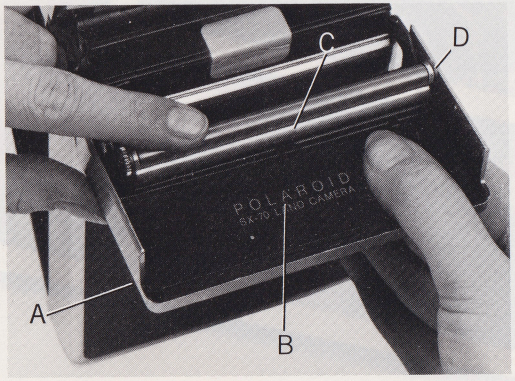
The camera

The SX-70 is a precisely made optical, electronic and mechanical instrument that should always be handled with care. Keep it closed when you are not using it, to prevent dirt and dust from getting inside. Remember that rough handling or dropping may damage delicate components.

At the beach, protect your camera from sand and salt spray. In humid tropical climates, store the camera in the coolest and driest possible place. Seal it in a plastic bag for extra protection.

The lens and viewfinder eyepiece will seldom need cleaning. If they do, blow off any dust, then wipe them gently with a clean, lint-free handkerchief or cloth.

Before loading each new film pack, examine the rollers inside the film door as described below. To prevent dust from entering the film compartment, it's best to do this while an empty film pack is still in the camera. Rest the back end of the camera on a table, or support it in some other way to prevent it from dropping. Open the film door (A) and depress the light shield (B) to expose the rollers (C). Use a finger to rotate the rollers, which should move freely. Remove any specks of dirt from them with a clean, lint-free cloth, moistened with water if necessary. Pay special attention to the raised ends (D) on the top roller, where dirt may collect.



The rollers must be kept clean; inspect them regularly.

The film

Polaroid SX-70 Land film, like all film, should be kept cool. Avoid storing it in a hot place, or subjecting it to high temperatures or direct rays of the sun for long periods. The glove and luggage compartments of a car, for example, are not good places to carry your film in hot weather.

If possible, store the film in an area at a temperature below 75°F (24°C); for long-term storage, keep it at a temperature below 65°F (18°C).

In unusually hot weather, you may refrigerate the film, but be sure to remove it from the refrigerator at least one hour before using it, to allow it to warm up to room temperature.

Until you actually place the film into the camera, leave it unopened in its sealed carton, which is especially designed to preserve the freshness of the film.

Take the same care of a loaded camera as you do of film, to keep it cool during storage and transportation.

The pictures

When your SX-70 picture is automatically ejected from the front of the camera, remove it by its wide white border. Hold it by the border while you watch the image emerge. Be careful not to bend or crush the print as it develops.

Although SX-70 pictures are extraordinarily durable, it is advisable not to handle them excessively during development. After they are fully developed, treat them as you would any normal photographic print; do not fold or crease them.

The finished SX-70 picture is sealed within its frame against a reflective white pigment that imparts a remarkable luminous quality to the image. There are no waste materials to discard, no need to cut or trim away any part of the picture. Cutting the borders of a picture will destroy its structure.

SX-70 pictures are extremely resistant to fading. However, like any color images, they should not be exposed for long periods to bright sunlight.

If you ever have a problem with your camera or film

Before you try anything else, call us, or write. Our Customer Service Department is as close as your telephone. One of our representatives will be glad to talk to you about your camera.

If the camera does not eject the film cover or film

When you insert a new film pack and close the door, or press the shutter button, the camera should do two things: make its usual motor noise and eject the film cover or a piece of film. If it does not do either, the battery in the film pack may not be working. Try another pack. If the film cover comes out this time, the battery in the first pack was probably dead. We will replace that pack, if you return it to your dealer or to Polaroid Customer Service (page 62).

If the camera makes its usual noise, but does not eject the film cover or film, the cause may be with the film pack, although not related to the battery in it, or it may be with the camera. Check by inserting another pack. If the film cover comes out of this pack, it indicates that the first pack was not working properly. To replace it, return it to your dealer or to Polaroid Customer Service (page 62).

If the film cover does not come out of the second pack, the camera may not be working properly. Contact Customer Service at the Polaroid office nearest you, or return your camera as described on page 63.

If the camera stops during a cycle

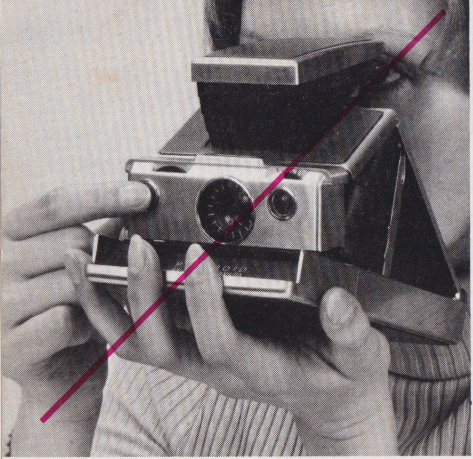
In rare cases, the camera may stop in the middle of an operating cycle, because the motor is not getting enough power to continue. There are two possible reasons for this.

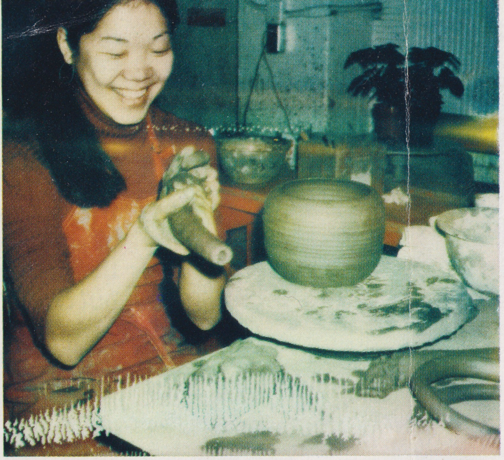
One is jabbing at the shutter button instead of holding it until the picture comes out. The remedy is simple – press the shutter button again and hold it. The camera should complete its cycle. If it does not, open the film door, in dim light, and pull the pack out about an inch, just until the picture counter resets. Push the pack back in again and close the film door. The camera should complete its cycle, ejecting the top piece of film, which will have been exposed to light and should be discarded.

If it does not, the problem is probably caused by the battery in the film pack which, like all batteries, can weaken as it ages. It may only have sufficient power to start the operating cycle, not to finish it. To solve this problem, remove the pack and insert an empty one* – most empty packs still have some power in reserve. If the camera completes its cycle, indicating that the battery in the first pack is dead, return that pack to your dealer or to Polaroid Customer Service (page 62) for replacement.

If none of the suggested remedies makes your camera complete its cycle, contact Customer Service at the Polaroid office nearest you, or return your camera for repair (page 62). Do not try to close it completely as this may damage the picture-taking mirror, which is in the mid-cycle position. For temporary storage or shipping, you can collapse the camera to the point where you feel a little resistance, but do not force it shut.

*If you do not have an empty pack on hand, you can use a fresh one, but you do risk losing one or more pieces of film. If the pack will not go in easily, do not force it but call Customer Service. If the film cover sticks out of the pack and the door will not close, remove the film cover and then close the door. Or, if the film cover is ejected only partway, open the film door and remove it from the rollers by turning the rollers forward. Never try to force it through the rollers without first opening the film door.

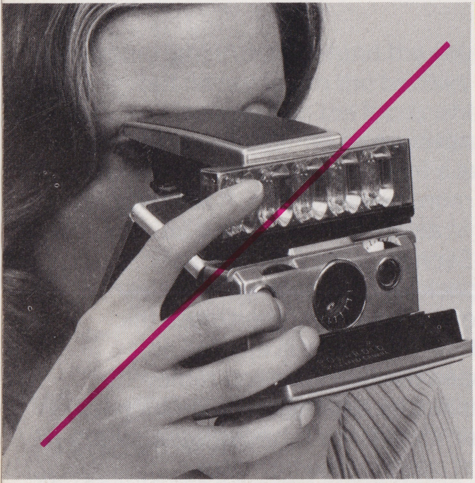


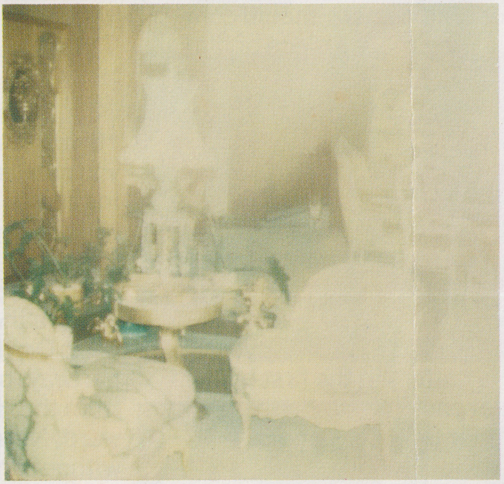


If the camera is not held correctly

Always hold the camera as shown on page 10. Holding the camera in any other way can cause a number of picture problems.

FINGERS BLOCKING THE PICTURE EXIT SLOT will cause pictures with horizontal creases, yellow-colored areas, feather-like white areas, or a combination of these. Keep your fingers away from the picture exit slot. If a piece of film becomes jammed there, open the film door in subdued light and gently rotate the rollers to move the film backward or forward through the rollers. Never try to remove film without first opening the film door.



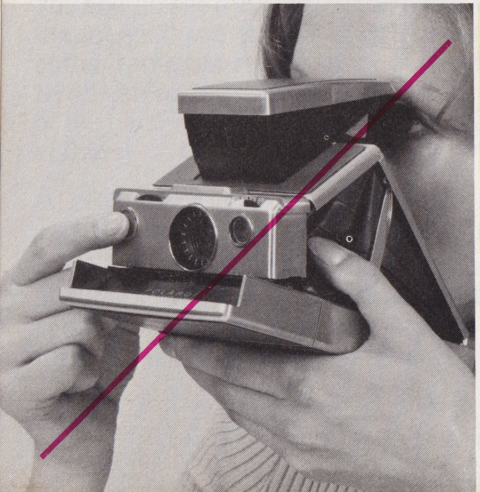


A FINGER IN FRONT OF THE FLASHBAR may reflect the flash into the lens, fogging the picture (see left). Or, it may block the flash entirely, causing a picture that is black or too dark.

A FINGER IN FRONT OF THE LENS can cause an incomplete picture image.

A FINGER IN FRONT OF THE ELECTRIC EYE may cause the camera to set a wrong natural light exposure.

Follow carefully the holding technique shown on page 10.



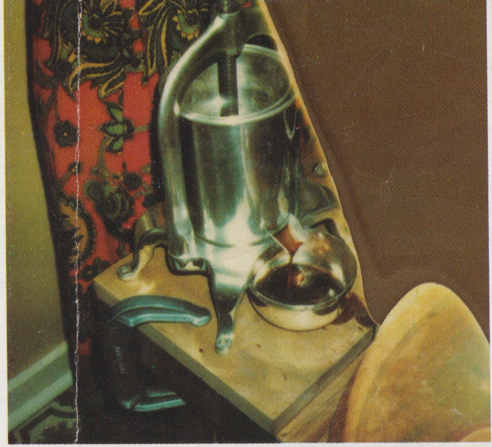
FINGERS ON THE CAMERA BELLOWS can cause pictures with the top part fogged, or pictures with foggy or streaky light patterns, or outdoor pictures that are completely white. Touching the bellows may block movement of the mirror inside the camera. If the mirror gets blocked, the shutter blades may open before the mirror completely covers the film, and the top piece of film will become fogged.

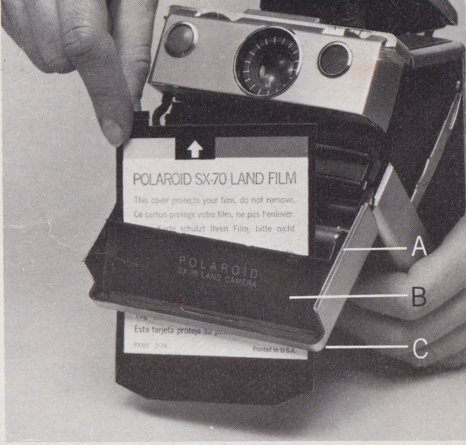
If part of the picture is missing

The pod of chemicals was probably damaged before the film unit went through the rollers. This may cause developer chemicals to leak onto the rollers, the picture exit slot, and the back of the picture. If you get a picture like the one at the right, check the back of it. If there are developer chemicals on it:

1. Clean the rollers as explained on page 54.
2. Clean the picture exit slot, as shown at the far right. Insert the film cover, or a clean piece of paper of the same size, in front of the rollers (A) and under the light shield (B). Push until it comes out through the picture exit slot (C). Move it in the slot until it removes all the developer chemicals. Be careful not to force the slot open, as it can be permanently damaged.

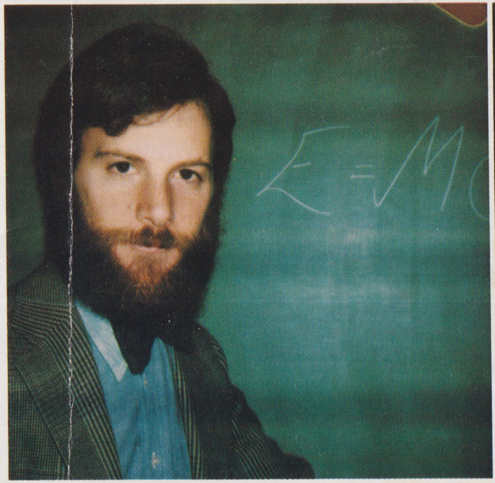
If chemicals are smeared on the back or front of a picture, wash them off after the picture has developed fully.

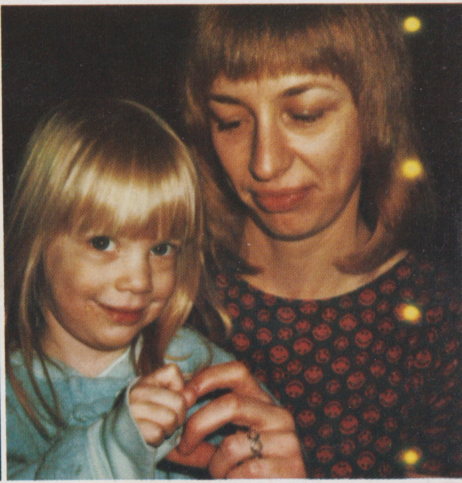



POLAROID SX-70 LAND FILM
This cover protects your film, do not remove.
Ce carton protège votre film, ne pas l'enlever.
POLAROID
SX-70 LAND CAMERA
Esta tarjeta protege su
Printed in U.S.A.
A
B
C

Dirty rollers

The bar pattern at the right may be caused by dirt on the raised ends of the top roller, the repeated spot pattern at the far right by specks of dirt on the rollers themselves. Clean the rollers as described on page 54.

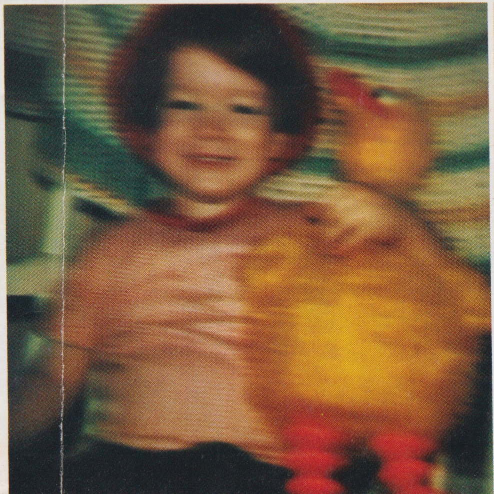


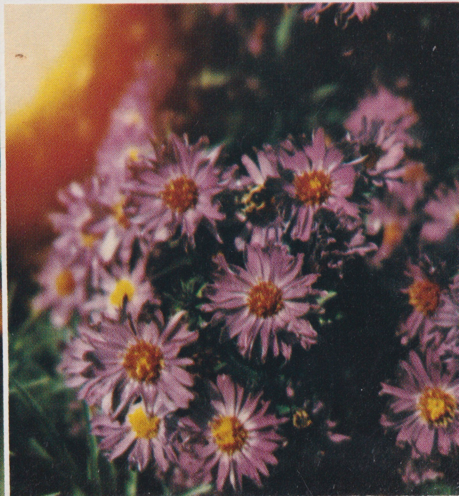


Other problems

CAMERA SHAKE, RIGHT: If everything in a picture looks fuzzy and unsharp, the camera may have moved as the picture was being taken. Always hold the camera steady until the picture comes out of the slot.

FOGGED FILM, FAR RIGHT: White areas in a picture indicate that the film was fogged before it was exposed. This can be caused by removing and reinserting the film pack in the light. The fogged area will then appear in the upper left corner of the picture and it may have a red or orange tint. If it is ever necessary to remove and reinsert a film pack, do so in subdued light.





HOW THE SYSTEM WORKS

SX-70 is the most highly automated and self-sufficient photographic system ever devised. To take the picture, all you need do is to open the folded camera to the "taking" position, focus on the subject and press the shutter button. The camera does everything else for you. The film, after being ejected from the camera, develops itself, in full daylight, and stops developing at the proper time without any intervention from you. The electronic circuits, which constitute the nerve center of the camera system, would, only a few years ago, have taken up considerably more space than the entire camera does today. The negative and positive of the film are, together, far thinner than the corresponding sheets of the Polacolor film that has been used for billions of color pictures since 1963.

The camera

In the SX-70 camera, the light from the scene being photographed travels to the viewer, and to the film, through a complex, partially movable mirror system. For viewing purposes, the light is reflected four times within the camera, before it reaches the eye. When the photographer is ready to take his picture, and presses the shutter button, this elaborately folded light path is redirected, this time through just one mirror, to the film.

The picture-taking mirror distinguishes the SX-70 camera from most conventional cameras, in which the light travels from the lens straight to the film to make the exposure. The "taking" mirror serves two purposes. Without it, the picture on the SX-70 film would be a left-to-right reversal of the original scene. The mirror reflection of the image corrects this. The mirror also effectively increases the lens-to-film distance within the camera body, enabling a relatively large picture to be produced within a relatively compact camera body.

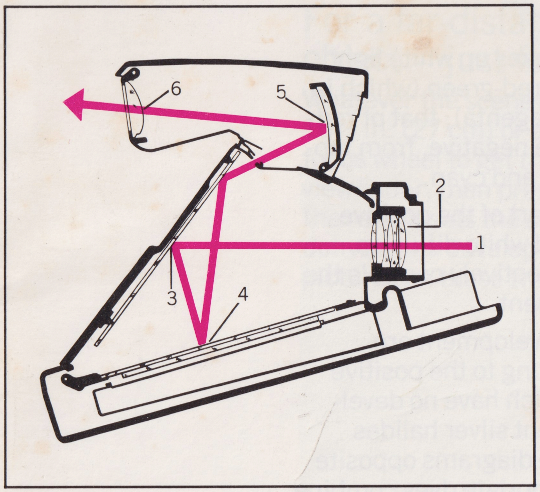
The SX-70 shutter consists of two simple aperture blades, which slide by each other. The blades contain two sets of holes: a large set, which forms the aperture for the taking lens, and a smaller set, for the lens of the electric eye, which provides automatic exposure control. The amount by which the blades are permitted to move past each other determines both the amount of light entering the lens, and the duration of time it can enter. Thus, the blades perform the job of both the shutter and the lens diaphragm of a conventional camera.

When you press the red shutter button, you close an electrical switch that sets in motion a complex and completely automated sequence of events. First, the shutter blades close and the hinged "taking" mirror moves into the correct position. The shutter blades begin to open again, to expose the film. The tiny photocell of the electric eye measures the amount of light coming in through the small set of holes in the shutter blades. When half the total amount of light needed for correct exposure has passed through, the electronics automatically reverse the movement of the blades, closing them again at a carefully controlled speed.

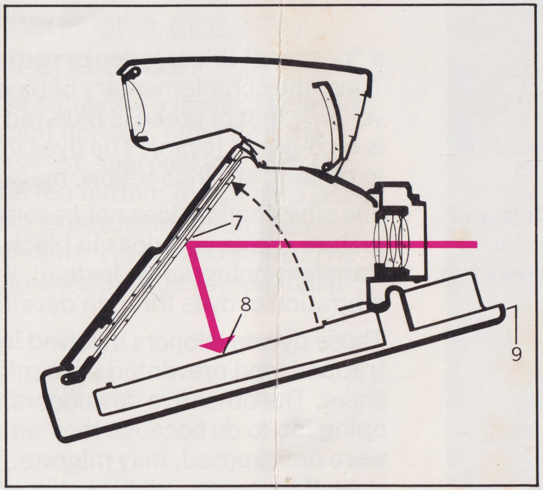
For flash pictures, the shutter works a little differently. When you plug in a FlashBar, you automatically disconnect the electric eye and bring into action other circuits that direct the shutter to remain open for 1/40 sec. for all flash pictures. The size to which the shutter aperture is permitted to open is controlled directly through the focus wheel of the lens. Thus, focusing the camera on any specific distance automatically sets the correct flash exposure for that distance. The farther the subject is from the camera, the wider will the shutter blades open for the flash exposure, thus assuring correct exposure at all distances within the flash range of the camera. Apertures for flash pictures vary from a tiny f/90 for a subject at 10½ in. (27 cm) to a maximum of f/8 for subjects at 15-20 ft. (5-6 m).

Once the shutter has closed after an exposure, a motor whirs and the film is squeegeed between the processing rollers in the lower front of the camera. Chemicals from the pod on the film are spread thinly through the emulsion layers of the film. The film is automatically ejected from the camera, and develops before your eyes.

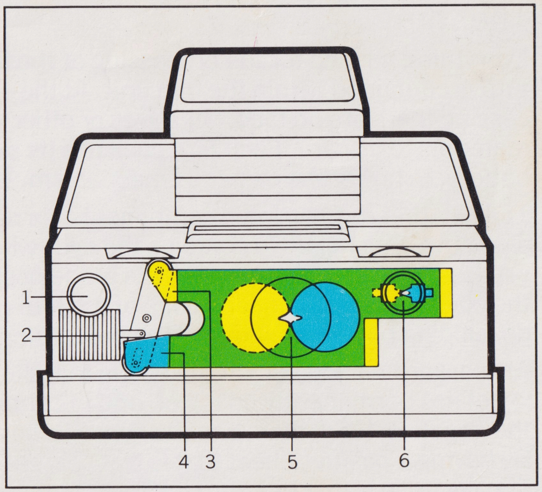
The "taking" mirror is automatically lowered once more, to uncover the viewing system, making the camera ready to take the next picture.



The SX-70 is a folding single-lens reflex camera. Its multiple mirrors bounce light rays back and forth to achieve, firstly, the required viewing and focusing conditions and, secondly, the proper light path for taking the picture. For viewing and focusing, light (1) enters the camera through the taking lens (2) and is reflected downward by the viewing mirror (3). Light rays then strike a patterned Fresnel mirror (4), which is designed to reflect them upward in a smaller focused beam. This beam is reflected off the viewing mirror once again and then passes on to the viewfinder mirror (5). From there it passes through the viewfinder lens (6) to the eye.



When the electric shutter button is pressed, the shutter, which was open for viewing, closes immediately and the motor turns to unlatch the patterned mirror. This mirror, which is used only for viewing, then springs upwards out of the way (vertical arrow), against the back of the camera. At this point the "taking" mirror (7), which is on the reverse side of the patterned mirror, is in place for use. The shutter then opens to take the picture (see diagram at right). Light rays pass through the lens and are reflected from the taking mirror down to the film sheet (8). The electric eye measures the light for correct exposure and the shutter closes at the proper moment. The exposed film is now ready to be transported by the gear mechanism through the film-development rollers and delivered to the photographer through the exit slot at (9).



When the shutter button (1) is pressed, power is supplied to a solenoid (2), an electromagnet with a moving plunger. The plunger moves, actuating a pivoted lever that slides the two shutter blades (3 and 4) past each other, closing the shutter completely. The patterned mirror flips up bringing the taking mirror into position (see left) and turning off the solenoid. The shutter blades then begin opening to make the exposure through the taking lens aperture (5). The electric eye aperture (6) opens at the same time and the photocell begins to measure incoming light. When the computer determines that half the necessary light has entered, the blades begin to close, to end the exposure.

The film

Everything needed for the processing of the SX-70 picture is contained within the film unit. At the end of processing there are no tabs, negatives or other waste materials to discard. Each film pack has its own built-in battery, to power the camera's mechanism.

The film unit has two main components – a negative and a positive. The negative contains the dyes which, during processing, will physically migrate to the positive to form the color picture. Along one edge of the film runs a developing pod, containing all the processing chemicals.

An extraordinary aspect of the film is that the positive sheet lies permanently on top of, and in contact with, the negative. How, then, can the negative be exposed? By having a positive sheet that is transparent.
The negative is exposed through the positive sheet.

As soon as processing begins, and the film unit is ejected from the camera, the contents of the pod are released. The pod contains three main constituents. One of these is an alkali, which penetrates all the layers of the negative and sets the processing in motion. Secondly, there is an opaque material, which is spread between negative and positive, to shield the negative from all light during processing, while permitting the free flow of vital image-forming components from negative to positive. The positive picture builds up gradually in the transparent image receiving layer. The opaque material makes it possible to view the emergence of the image, even in the brightest daylight. On the completion of processing, the opaque material becomes clear. A third component is a small quantity of titanium dioxide, which provides an unusually brilliant white reflective backing for the color image after processing is complete.

The negative has three layers of light-sensitive silver halide grains. These layers are selectively sensitive, the top one being primarily sensitive to blue light, the center one to green and the lower one to red. Below each silver halide layer there is a layer of dye (in the form of a dye developer). The dye in each case has a color that is complementary to the color to which that specific layer is sensitive.

A "complementary" color is one which, when added to a "primary" (blue, green or red), makes up white light. Thus, the complementary of blue is red-green (which is yellow); that of green is blue-red (magenta); that of red is blue-green (cyan). The dyes in the negative, from top to bottom, are thus yellow, magenta and cyan.

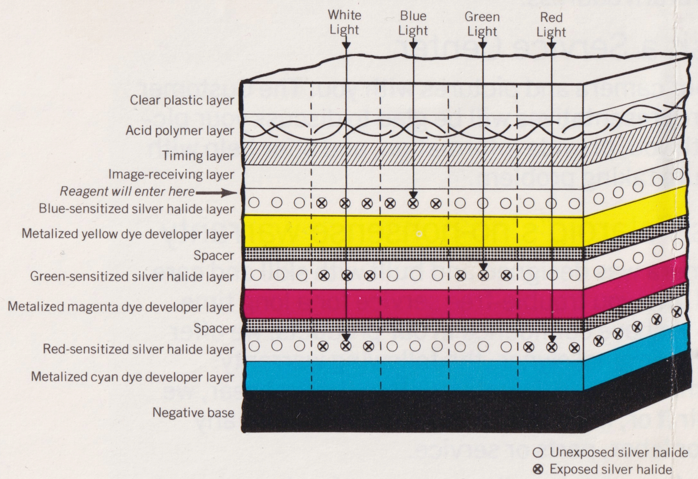
The silver halide does not become part of the positive picture image as it does in black and white diffusion transfer photography. Instead, it selectively controls the migration of dyes through development.

Those dye developers involved in development are trapped, and prevented from migrating to the positive sheet. The other dye developers, which have no developing job to do because their adjacent silver halides were not exposed, may migrate. The diagrams opposite show the process, and how the appropriate dyes combine in the positive receiving layer to re-create the colors of the original scene.

Both chemical and physical means are used to assure that the migrating dye developer components are able to act only on the exposed silver halide grains located in the layer directly above them, and not on those in any of the other light-sensitive layers. For example, the magenta dye developer must only be permitted to act upon the exposed silver halide grains within the green-sensitive layer, and nowhere else.

When development is complete the alkali will automatically be neutralized, and the dye developer migration will thus be halted. The positive picture will have been fully built up in the image receiving layer. The opaque layer, having served its purpose, will now have become transparent.

Deposited just below the picture image there will now be a layer of titanium dioxide pigment. It is white, highly reflective and opaque. It serves two purposes. First, it forms the reflective backing for the color image, contributing greatly to the unusual brilliance of the color pictures produced with this film. Secondly, it serves as a permanent curtain over the remains of the negative, which has completed its function and should not be seen any more.

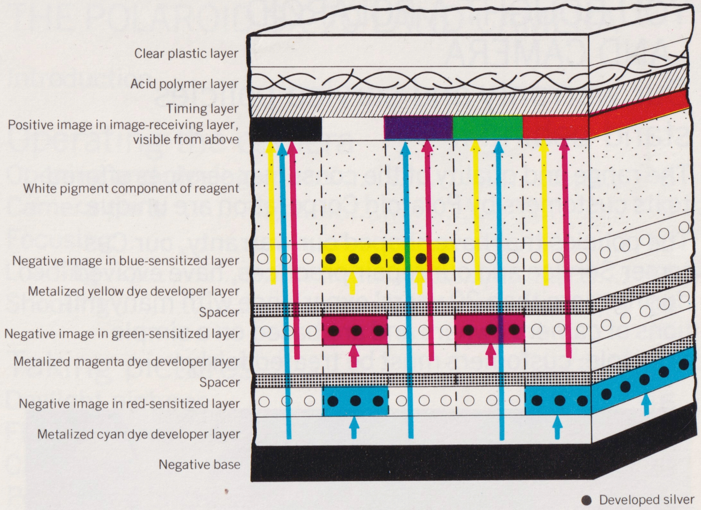

White Light
Blue Light
Green Light
Red Light
Clear plastic layer
Acid polymer layer
Timing layer
Image-receiving layer
Reagent will enter here
Blue-sensitized silver halide layer
Metalized yellow dye developer layer
Spacer
Green-sensitized silver halide layer
Metalized magenta dye developer layer
Spacer
Red-sensitized silver halide layer
Metalized cyan dye developer layer
Negative base
○ Unexposed silver halide
⊗ Exposed silver halide

Exposing the SX-70 Negative

The color negative in the SX-70 film unit has three layers of light-sensitive silver halide grains. The top layer is sensitive primarily to blue light, the center layer to green and the lower layer to red. Below each silver halide layer there is a dye developer layer. The dye developer adjacent to the blue-sensitive silver halide layer is yellow, that next to the green-sensitive layer is magenta, and that next to the red-sensitive layer is cyan.

White light exposes all three of the silver halide layers. Blue light exposes only the blue-sensitive layer. At this stage, the yellow dye serves as a filter, preventing the blue light from continuing to the other layers. Green light exposes only the green-sensitive layer; the magenta dye prevents the green light from continuing to the red-sensitive layer. Red light exposes only the red-sensitive layer. Black, being an absence of light, exposes none of the layers.

Immediately after exposure, the film unit is driven through the rollers and emerges from the camera, the processing chemicals having been spread between the positive and negative.


Clear plastic layer
Acid polymer layer
Timing layer
Positive image in image-receiving layer, visible from above
White pigment component of reagent
Negative image in blue-sensitized layer
Metalized yellow dye developer layer
Spacer
Negative image in green-sensitized layer
Metalized magenta dye developer layer
Spacer
Negative image in red-sensitized layer
Metalized cyan dye developer layer
Negative base
● Developed silver

Developing the SX-70 Print

As soon as the alkaline reagent from the pod spreads between the negative and positive, it seeps through all layers, activating the dye developers. The developer molecules spread upward and, whenever they encounter the nearest exposed silver halide grain, they go to work on it, reducing it to metallic silver. In this process the dye developer becomes trapped. On the other hand, the dye developers that encounter only unexposed halides, which are not developable, continue their journey toward the positive sheet unhindered. Thus, blue light causes the yellow dye to be trapped in the blue-sensitive layer, while the magenta and cyan dyes are free to move on to the positive image-receiving layer. Their mixture re-creates the blue of the subject photographed. In the same manner, all over the picture area the three layers trap and release dyes selectively to re-create the colors of the original subject. When the alkaline reagent has penetrated the timing layer, it reaches the acid polymer layer, which causes the alkalinity to be neutralized. Development is thus halted. The white pigment component (titanium dioxide) remains just below the finished image, forming a highly reflective base for the color image and at the same time shielding the negative, which has completed its function and should not be seen any more.

YOU BOUGHT A POLAROID LAND CAMERA

Our warranty and service policies stand behind it

The range and quality of the consumer services offered to its customers by Polaroid Corporation are unique.

The policies that have shaped our warranty, our Customer Service and our repair practices, have evolved during more than 20 years' experience with many millions of camera owners and are based on a simple principle: customers must be treated fairly.

Customer Service: as close as your phone

Our staff of skilled Customer Service representatives is ready to give you any information or assistance necessary to help you get good pictures. If you ever have a problem with your camera or film, we urge you to get in touch with Customer Service promptly. There are three ways to do this.

Call us

Call any of our Customer Service offices during normal working hours any weekday. See the telephone numbers listed on the following page.

Or, write a letter

The addresses of all our Customer Service offices are listed on the next page. If you write about a picture taking problem, please enclose sample pictures and explain as clearly as possible the conditions in which the problem occurred. Be sure to include a clearly printed return address.

Or, visit a Service Center

Bring your camera and pictures with you. The Customer Service representatives will be glad to discuss your pictures with you, provide information, and offer help with any picture taking problem.

This is Polaroid's no-nonsense warranty

Your camera was designed and built with skill and care. It should give you trouble-free service for a long time. Because we have confidence in our products, we offer you, as the original owner, the following warranty:
If the camera proves defective within the first year, we will repair it or, if we choose, replace it, without any charge for labor, parts or service.

We will, when we return the camera, refund an amount approximately equal to what it cost you to mail it to us by insured parcel post if the return address is within the country in which the Service Center is located. We will also give you a free pack of film.

To take advantage of this warranty, the camera must be sent to and repaired by one of the Polaroid Service Centers listed on the opposite page.

The warranty does not cover damage caused through accident or improper use, in which case repair will be made at a reasonable charge.

Before you return a camera for repair, please contact Customer Service and describe the problem.

Our after-warranty service is good, too

After the warranty period you will still get the same excellent customer service that we offer during the warranty period. If your camera should be damaged, or develop a malfunction, any of our Service Centers will provide expert repairs at reasonable prices. And there is a warranty on repairs, too.

Camera repair

Every Polaroid Service Center offers walk-in service and this is the fastest way to get a camera repaired. Many repairs can be made while you wait. While you are there you can talk to our Customer Service representatives about any picture problems you may have. If it is inconvenient for you to visit our Service Center, you may either ask your Polaroid Land camera dealer to return the camera or you may mail it yourself.

Before you mail a camera for repair, please contact Customer Service and describe the problem.

Pack the camera carefully to assure that it will travel safely. If you're unsure about the container we will, at your request, send a pre-addressed approved shipping carton. Address your package to the Polaroid Service Center in your country, and send it by *insured* parcel post.

Whichever method you select, be sure to include a note describing the problem as clearly as possible and, if you can, include sample pictures which illustrate it.

Polaroid Service Centers strive to provide the fastest possible service consistent with high quality workmanship. The goal is to repair and ship all cameras within three to five working days and only rarely is a camera in a Service Center longer than that.

Polaroid Service Centers and Offices

AUSTRALIA
Polaroid Australia Pty. Ltd.
2-12 Smail Street
Ultimo, N.S.W. 2007
Telephone: 211-5200
Telex: 21508

Mailing address:
P.O. Box 335
Broadway, N.S.W. 2007

AUSTRIA
Polaroid Ges.m.b.H.
Kegelgasse 27
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Telephone: (0222) 73 31 97
Telex: 13327

BELGIUM
Polaroid (Belgium) S.A.
12-16 rue de la Victoire
12-16 Overwinningsstraat
1060 Bruxelles-Brussel
Telephone: 02-538.28.05
Telex: 21770

BRAZIL
Polaroid do Brasil Ltda.
Rua Almirante Marques
Leão 408
São Paulo 01330, S.P.
Telephone: 288-8043

Mailing address:
CAIXA POSTAL 2908
São Paulo 01000

CANADA
Polaroid Corp. of Canada, Ltd.
350 Carlingview Drive
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Telex: 06-968517

Western Camera Service Ltd.*
1855 4th Avenue
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Telephone: 5-718252
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Telex: 24431

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Michelmex S.A.*
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Mexico 6 D.F.
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Telex: 0017-74-338

THE NETHERLANDS
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Verkoopkantoor Nederland
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Enschede

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Carolina 00630

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127 21 Skärholmen
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Telex: 17681

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OTHER COUNTRIES
Consult your dealer for the name of the nearest approved Polaroid service agent, or contact the nearest Service Center listed above, or write Polaroid Corporation, USA.

*Authorized Independent Repair Station

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